

THE RAILWAY GAZETTE
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DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. The RAILWAY GAZETTE possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders, 1940, No. 629

TO CALLERS AND TELEPHONERS

Our office hours until further notice are:—

Mondays to Fridays - 9 a.m. till 5 p.m.

Saturdays - 9 a.m. till 12.30 p.m.

The office will be closed on the first Saturday in every month until November 2, inclusive.

Railway Charges to Rise Again

A FURTHER increase in railway rates, fares, and charges, bringing them up to a level 17½ per cent. above that ruling at the outbreak of war, is proposed by the Railway Executive Committee to meet higher costs. This advance would amount to about 6·8 per cent. on present charges, which are at the enhanced rates resulting from the 10 per cent. increase at the beginning of May, and would be the second which it has been necessary under the Government's financial agreement with the companies. It is proposed by this means to increase the yield of the higher charges to some £44,500,000 by September 30, 1941. The amount which will accrue from the advances already authorised is estimated at £29,500,000. The Charges (Railway Control) Consultative Committee, which consists of the three permanent members of the Railway Rates Tribunal, is to hold a public inquiry into the best method of increasing the charges so as to achieve this result, and will begin its sittings on August 26. The procedure which is being followed on this occasion—a public hearing of the case—is at least an improvement on that of Ministerial edict adopted for the May increase. So far the reception of the announcement of the proposed increase has not been favourable. The problem of advances in charges is discussed in an editorial article on page 163.

* * * *

Addresses on Merchandise

The four main-line railway companies have lodged an application with the Railway Rates Tribunal seeking an Order modifying the terms and conditions of carriage as settled by Statutory Rules and Orders, 1927, No. 1009. The effect of granting the application would be to delete the second of the regulations for the addressing of goods carried by merchandise train. This regulation lays down the proportion of articles in large consignments which must bear the address to which the whole cargo is to be delivered. The desire of the railway companies is that the address should be upon or affixed to every article so that handling, especially in the blackout, would be simplified. As it is a certain amount of time is lost by reason of the need to keep together the various items in a load, and some economy in handling would doubtless result from the proposed change. The consignor would be put to a little extra bother, but he would be recompensed by the greater speed which is likely to result from elimination of delays in transit caused by the present system and also by the reduced risk of loss. Generally, it may be said that wartime working conditions have greatly increased the difficulty of dealing with consignments of which only a part bears indication of destination.

* * * *

Government Powers of Control

The challenge to the powers of the Minister of Supply in relation to controlled companies, to which we drew attention in THE RAILWAY GAZETTE of August 9, has had important results. The regulation which E. H. Jones (Machine Tools) Limited had held to be invalid because it exceeded the powers conferred on the Minister has been revoked and replaced by a new regulation. In effect the right of Government Departments to take control of factories and undertakings is modified. The new regulations provide that authorised controllers may not give directions inconsistent with the memorandum of association of a company except in so far as may be provided specifically by the relative order. Obligations are laid on the competent authority to communicate the effect of control orders to the undertakings which are affected by them. The prompt action which was taken by the machine tool company has led to a welcome clarification of the powers of the Government in so far as they affect industrial undertakings which may be controlled, and has resulted in the establishment of

a more reasonable mode of life between the controller and the controlled.

* * *

Registration of Engineering Labour

The Minister of Labour has made the first industrial registration Order under his wide powers over personnel of all kinds. Previous Orders have required practising professional engineers, chemists, and quantity surveyors to register details of their qualifications, experience, and engagement; the present Order covers skilled labour in a wide range of specified occupations in the engineering and allied trades. The object is to secure men for transfer from less essential work to that of primary national importance and it is interesting to note that registration is required of men who within the last twelve years have been engaged in these trades for a year or more, since that plainly implies retraining of men who have transferred into other occupations. As the productive capacity of the munitions works increases, so will the demand for skilled engineers rise. Whether a sufficiency of labour will be found as a result of the present scheme seems doubtful, for most works employing these men in any quantities have probably already turned over to war work. Men already engaged in Government work, and in certain occupations which include the main-line railways and the London Passenger Transport Board, are exempt from the obligation to register. As the demand for labour of this kind increases, there is bound to be a growing insistence by the Ministry on the need for the utmost economy in its use and for the widest utilisation of available supplies.

* * *

Russo-British Trade Routes in Wartime

As pointed out in the *Evening Standard* of July 31, the fact that "a railway commission from Iran (Persia) has left Teheran for Moscow to discuss transit problems with the Soviet authorities," emphasises the present geographical isolation of Russia, and that her shortest main line of communication with the British Empire, not dominated by the Axis Powers or Japan, is *via* the Trans-Iranian Railway and the Persian Gulf. There are, however, road transport routes into Turkey and through Eastern Iran, by way of Meshed, Birjand, Mirjawa and Nok Kundi—the present railhead of the Indian North Western Railway, some 300 miles west of Quetta—also through Afghanistan and the Khyber Pass. In the event of Axis successes in the Middle East, inspired by the lure of the oil-fields of Iraq and Iran, threatening Iraq and Western Iran, it is conceivable that the Meshed-Nok Kundi and Khyber routes would become of much greater importance to the Soviets. Meshed is only about 70 miles from the Russian Turk-Sib Railway, and the route thence to Mirjawa—along the existing motor road—is believed to be much easier for a railway than that through Afghanistan. The reopening to traffic of the Nok Kundi-Mirjawa section of railway, closed since the last war, would be a simple matter. Whether such a through rail connection would receive our political and military benediction is another matter.

* * *

Civil Service Procedure

The great difference which must always divide purely administrative functions from those of the executive, and the increasing degree in which Civil Servants have been called on to take part in the latter, although all their training and tradition has been for the former, is no doubt a basic cause of a good deal of the criticism heard of the Service. In an effort to avoid the delays which have become a byword among those whose business brings them into contact with Civil Servants, the Treasury has recently issued a circular to the departments. *The Manchester Guardian* reports comments which have been made on this circular by the journal of the Civil Service Clerical Association, in which that body declares that the war has simply intensified and made more urgent the necessity for transforming a procedure based on Victorian principles of stability and safety first to an organisation which is responsible for initiating and carrying out vast enterprises in a rapidly changing world. It considers that the administrators of the future will need an entirely different training from those of the past, but declares that the old type of higher

official cannot simply be replaced by a "business man." In practice, we might add, since the Civil Service is become daily more closely associated with business and its direction, it is desirable that its personnel should include those who have a training in commercial as well as purely administrative work.

* * *

Buffers and Shunting Speeds

Sufficient evidence is already available to prove the efficacy of the shock-absorbing devices with which some freight vehicles are nowadays fitted on the London Midland & Scottish, Great Western, and Southern Railways. Of interest in this connection are the remarks made by the author of a paper read before a meeting of the South American centre of the Institution of Locomotive Engineers, Mr. Thomas Clayton, who took as his subject the Design of Wagons for Broad Gauge Railways in Argentina. Although not specifically referring to shock-absorbing wagons, Mr. Clayton made some useful general observations in which he pointed out the mistake of underestimating the energy to be dissipated when loaded wagons are buffed together, and the speed at which shunting takes place. Eight miles an hour is a common shunting speed, and a wagon of 70 tons at this speed has 150 ft.-tons of energy. Assuming that at the moment of maximum pressure half this has gone in accelerating the stationary wagon then 75 ft.-tons has been absorbed in the buffers and frames of the two vehicles. The common modern buffer has a capacity of almost 4½ ft.-tons, but the author instanced an improved type which would absorb about 12 ft.-tons, making 48 ft.-tons for the four buffers; the rest has to be absorbed by the wagon frame and the cargo.

* * *

Railway Enthusiasts and the War

At no time altogether easy, the path of the railway enthusiast has been made doubly difficult—nay, actually perilous—by war conditions under which a more than passing interest in trains is apt to be regarded as *prima facie* evidence of Fifth Column membership. Prison cells yawn, or at least the prospect of disagreeable cross-examination exists, for those who flaunt possession of a notebook for recording engine numbers, and the interpretation of the Control of Photography Order in respect of railway premises has on more than one occasion proved disconcerting to enthusiasts. Important as it may be to retain as far as possible the goodwill of that not inconsiderable body of students and supporters whose ardour normally constitutes an important asset of propaganda to the railways, it cannot be gainsaid that sympathy in these hectic times will lie with the already hard-worked railway official. Station employees and railway police cannot reasonably be expected to devote their time, already fully occupied, to investigating the *bona fides* of every individual who wishes to spend an hour or two "watching the working" at some station or junction through which, maybe, important military traffic is passing; moreover, if such observers are ignored by the railway staff, there is always the alert civil or military authority, or even the ardent Sixth Columnist, ready to draw attention to the suspect. Further, the possibility that the enthusiast may not really be all that he appears to be cannot, in the experience of what has happened elsewhere, be ruled out altogether. Hence must the railway enthusiast perforce suffer in silence the curtailment of many of his activities, consoling himself with the reflection that by so doing he is at least helping to conserve the energies and attention of those whose railway duties constitute at the present time an arduous, exacting, and vitally important task.

* * *

Observation Cars

The character of the observation car, which is so typical a feature of American passenger train equipment, is gradually changing. Until recently the practice has been to provide an open platform at the rear end, with a canopy over it formed by an extension of the car roof, and enclosed by an ornamental brass fence; inside this fence there is space for about eight heavy folding chairs which can be occupied by pas-

sengers sufficiently keen on fresh air to occupy this *al fresco* position. Side curtains are some protection from draughts and dirt, but obviously the outside observation car platform has little attraction save in fine and warm weather, and it is found that the space so taken up can be put to better use. In modern stock, therefore, the rear ends of observation cars are in almost all cases entirely enclosed, and form part of a "solarium," or glass-enclosed sun lounge, which with the benefit of air-conditioning, free from draughts, has a considerable advantage over an outside platform, even in the highest temperatures. A counterpart in Great Britain is the beaver-tail observation car of the L.N.E.R. Coronation set, or the *ex-Pullman* car *Maid of Morven* used in normal summers on the L.M.S.R. Callander and Oban line. In the American observation cars, only a part of the car is given up to the sun lounge, the remainder usually including a light refreshment buffet and also some of the more exclusive sleeping equipment on the train, such as master rooms, drawing rooms, or double bedrooms.

* * *

Cleaning Steel Structures by Blowpipe

A problem of very long standing has been the maintenance of steel structures, such as bridges, which are subject to the corrosive effects of locomotive exhaust, and a comparatively new process, known as flame descaling and dehydrating, involving the use of a specially designed oxy-acetylene blowpipe, promises an important contribution to its solution. The first step in applying the process is to remove loose rust scale and paint by hand wire-brushing and pneumatic hammers and chisels. The blowpipe is then brought to bear on the rivet heads. After the first pass of the flame the rivet heads are wire-brushed, and a second pass with the blowpipe should be sufficient to remove all the remaining paint and scale. The flat portions are then treated with a special flat descaling blowpipe nozzle 6 or 8 in. wide, and as many passes as may be necessary, alternated with wire-brushing and scraping, are made. After the final pass a power-driven wire brush should be used, and the first coat of new paint applied by spraying while the steel is still warm. This provides a paint base which should enable the steelwork to stand up much longer before requiring further attention than is usual after almost any other method of cleaning steelwork. The great advantage of the blowpipe method, apart from the speed of the cleansing process, is that it produces a perfectly dry as well as clean surface.

* * *

Supplying Water for G.W.R. Locomotives

To ensure the supply of water for locomotive purposes, of which the G.W.R. engines consume upwards of 2,000,000,000 gal. annually, the company purchases water at about 270 stations on its system. Some interesting facts about this water supply were included recently in the *G.W.R. Magazine*, from which we learn that 220 million gal. are taken annually from the Metropolitan Water Board, 266 million gal. from the Cardiff Corporation, and smaller quantities from other municipal authorities and water companies. Other sources of supply, subject to rental, are ponds, streams, and reservoirs on private property. In addition to these purchased supplies, an average yearly quantity of 400 million gal. is taken from canals adjacent to the railway at Devizes, Savernake, Taunton, Durston, Tiverton, Creech, Swansea, Landore, Aldermaston, Cwmbran, Panteg, Pontypool, Rogerstone, Risca, and Stratford-on-Avon. There are also about 180 pumping stations on the system, and the sources of supply, including bore-holes and wells, are mostly situated on the company's own property. On the G.W.R. system most of the supplies in the Midlands and towards the east are hard, whereas those in the West of England and in Wales are soft. The company's locomotive water-softening plants at seven different points on the system have a total capacity of nearly 130,000 gal. an hour. In addition, there are two softeners in operation for stationary boiler purposes, namely, at Sudbrook pumping station (15,000 gal. an hour capacity), and at Swindon works (12,000 gal. an hour capacity).

Ascending Railway Charges

IF any justification were needed of the forebodings expressed at the last annual meetings by the Chairmen of the main-line companies as to the practical and political difficulties of implementing the financial agreement with the Government for the period during which the railways operate under control, it is provided by the necessity to make a second substantial upward adjustment of fares, rates, and charges within a few months of the first. The reaction both among the general public and in the House of Commons to the announcement that charges were to be raised by 10 per cent. on May 1 was unfavourable, in part because there was no adequate preparation of the ground, or any systematic endeavour to provide a full explanation of the need and justification for the increase. The railway companies, with their long and close contact with the public, had clearly foreseen, during the negotiations with the Government, how difficult it would be to implement an agreement which was based on the principle of linking costs to charges. The position as they saw it was expressed succinctly by Lord Horne at the Great Western Railway annual meeting; he told stockholders that: "It appeared to the companies to be wrong in principle that any part of the compensation payable to the companies should be dependent on net earnings when the control of expenditure was taken out of their hands."

This is a view which has been emphasised often in *THE RAILWAY GAZETTE* and which finds strong support in *The Times* of August 14. The first half of that paper's City Notes are devoted to the application for higher charges and the opinion is stressed that "any such increase must run counter to the economic interests of the community." It is pointed out that this is not an indictment of the railways, but of the basis of the agreement, or rather perhaps of the wage and price policy of the Government. The combination of railway charges directly variable with expenses, no control of wage costs, and Government participation in railway earnings, is as effective an arrangement for inflating the price structure as is the combination of Government contracts based on costs, no control of wages, and 100 per cent. E.P.T. for inflating purchasing power, it is declared. It is held that obviously the next step after another rise in charges will be a claim for higher wages and another upward adjustment of prices of numerous industrial products. The City Editor of *The Times* arrives at the conclusion that it is difficult to see what good a revision of the agreement would be so long as any attempt to prevent wages in general rising is vetoed by the Government. In point of fact, there can be no doubt that because the Treasury was obsessed during the negotiations with the idea that at all costs a check had to be kept on railway expenditures and, in the words of the then Minister of Transport in the House of Commons on February 13, "The controlled undertakings should operate on an economic basis," the Government has placed itself in a difficult position.

The railway plan, which was rejected out of hand by the Government, incorporated the principle of the railways having made good by the Government any wartime rise in costs. It would have left charges entirely at the discretion of the Government. Mr. W. H. Gaunt put the suggestion of a subsidy similar to that adopted for certain of the food industries publicly to the Minister of Transport at the annual luncheon of the Mansion House Association on Transport. In giving reasons for deciding in favour of the agreement now operating, the Minister of Transport on April 23 said that the Government was "most anxious to avoid a repetition of the experience of the last war. No attempt was made then to maintain rates at an economic level, with the result that shortly after the war . . . it was necessary to make extremely drastic increases in charges." Whether in point of fact the Government fared so badly under the terms which ruled in the last war is very doubtful. All Government traffic was carried free and the £60,000,000 compensation awarded after the war has not been widely judged to have been over generous. Nor has it been seriously suggested that because of the lack of control exercised over costs the managements of those days were wantonly extravagant or failed to exercise prudence in their affairs. Of one thing there is little doubt: the constant

raising of railway charges will have a seriously prejudicial effect on the goodwill of the railways companies. That is a very grave matter to the owners of the lines, and one for which the Government must bear its full measure of responsibility. It might well begin to shoulder that responsibility by making it abundantly clear on this occasion that the raising of rates is neither the fault nor the wish of the companies but is done by the Government in compliance with its own plan for controlling the railways.

Nationalisation Again

FEW months pass without some quarter or other raising the old cry of railway nationalisation; sometimes, as in the latest attempt to argue a case which has already been so widely canvassed as to leave little material which does not strike a familiar note, the project becomes more ambitious, and its scope is extended to embrace all transport. In "The State and the Railways," which is published by the Fabian Society, Mr. Ernest Davies adds nothing to our knowledge of the problem of co-ordinating the various agencies of transport—he does not, indeed, attempt to deal with this aspect—but is content to expound the Socialist creed that there should be a State monopoly of all forms of transport. Then, with the elimination of any element of competition, traffic would be forced to use the kind of transport for which it is physically and economically suited. That, at rate, is the theory advanced. Actually, the whole matter is dealt with so superficially that it will no doubt defeat its own object so far as the serious reader is concerned. On the other hand, there are a number of points in the pamphlet which are nothing less than misstatements, and which suggest that the compilation has been undertaken without even the zeal which usually animates even the most misguided enthusiast.

Although there is little likelihood that either the circulation of the pamphlet or the impression created, will be substantial, it is nevertheless undesirable that such statements as "The system employed by the railways is that assets are carried at cost until they are replaced, sold or finally abandoned" should pass unrefuted. As the author had read Lord Stamp's speech to the L.M.S.R. annual meeting in March last to the extent of noticing that he said that the replacement value of the company's property would be 60 per cent. more than the capital expenditure in the books, it seems a little strange that a further observation to the effect that annual provision out of revenue for complete renewal of the important assets which require periodical renewal was not borne in mind. Why the author should have selected the 1937 standard revenue is not clear, since the 1938 figure must have been available long before the pamphlet went to press. Nor can it be readily understood why it should be stated that control of the railways was assumed on the present occasion under the Movement of Troops Act, 1871. He may be confusing the title of the Act with that of the Regulation of the Armed Forces Act, 1871, under which the Government acted in 1914, but he could easily have ascertained that last autumn it was the Emergency Powers (Defence) Act, 1939, which was operative. In ascribing the announcement of the February financial agreement to January he is only a month out of time; and his declaration that Excess Profits Duty is unlikely to affect the railways, since they can apply for the application of the capital standard, which would enable them to escape it, would give greater comfort to stockholders if any confidence in the author's knowledge of these things had not already been destroyed by earlier inconsistencies.

Locomotive Aesthetics

TO the student of locomotive aesthetics the transformation that has taken place in recent years in the externals of American locomotive design has been one of the most striking locomotive phenomena of the past decade. Several factors have combined to produce this change. The journey to the United States of the Great Western locomotive *King George V* in 1927, for exhibition at the Fair of the Iron Horse at Baltimore, coupled with some experiments in colour and the "cleaning up" of exterior locomotive lines by the Baltimore & Ohio in the same year, probably gave the first impetus to the movement. Competition of the newly intro-

duced diesel high-speed trains, with their colourful streamline exteriors, was doubtless another factor. But in large measure the development has been due to the vision displayed by one man—Mr. Otto Kuhler—and to the persistent efforts made by him to convince American railway managements of the publicity value of line, colour, and cleanliness, as compared with the cumbrous and often dirt-encrusted appearance of American locomotive power in general. In a biographical article in the July-August issue of that bright American periodical *The Railroad Enthusiast*, Mr. Kuhler traces his enthusiasm to a postcard which he sent at the age of 12 to Mr. Samuel Vauclain of the Baldwin locomotive works; while stating with all candour that he did not expect to be in a position to buy a locomotive, he nevertheless asked for a catalogue, which was readily forthcoming. The card was written from Europe in 1906.

It was after the 1927 happenings that Mr. Kuhler, in 1928, evolved some tentative streamline shroudings for the New York Central 4-6-4 express passenger class, but his attempts to market these and some others were unsuccessful. Superintendents of Motive Power, in a day when expenditure was being cut, were opposed to anything that would increase constructional costs and weight and would make motion parts inaccessible; the effect of grace of line on the marketing of traffic made no appeal. Passenger traffic managers were much easier to convince, but their hands were tied by the financial reaction of depressed trade. The publication of some of Mr. Kuhler's designs in the *Railway Age* in 1931, however, and the correspondence so set in motion, at last turned the tide; and his appointment as artist-consultant by one of the biggest locomotive building firms in the United States gave him the opportunity he sought. Kuhler exterior designs as well as those of Mr. Henry Dreyfuss and other specialists, are now seen all over the United States. Among familiar types are the 4-4-2 and 4-6-4 Hiawatha locomotives of the Milwaukee Road, and the Royal Blue Pacifics of the Baltimore & Ohio. Mr. Kuhler favours correct aerodynamical lines, carried out as completely as will avoid the addition of too much weight and the concealment of working parts—the latter for the double reason of facilitating maintenance and also of exposing those parts to view, instead of "hiding the life-giving elements of a locomotive behind a skirt." The difference between such concealment and the reverse is seen by comparing the completely-streamlined 4-4-2 and semi-streamlined 4-6-4 Hiawatha designs; the latter has proved much the more popular type of the two. In most of the Kuhler models a bullet nose to the smokebox front, with the electric headlamp in the centre of it, is a prominent feature, while the apron beneath it, replacing the older cow-catcher, enables much play to be made with lining and colour at the front end. A raised housing for the boiler mountings, from chimney back to cab, is preferred to an all-concealing round-topped boiler casing, as in British streamlined locomotives.

It is well that the undoubted publicity appeal of the steam locomotive and its train is again being exploited in this way. For many years Great Britain was the only country in which the value of grace of line, colour, and cleanliness was properly appreciated, and although in recent years, and especially in war conditions, we have fallen sadly from previous standards, the streamline innovations from the 1935 Silver Jubilee of the L.N.E.R. onwards have proved what keen interest the very appearance of these flyers, coupled with their speed, evinces in the public mind. Even today one has only to stand on a crowded platform as a train approaches headed by a streamlined L.M.S.R. or L.N.E.R. Pacific to see every head turned to take in this still novel spectacle, and to hear a buzz of comment. It is not without significance that despite the hampering effect of the war, engines of the series of L.M.S.R. 4-6-2s now under construction are still being turned out completely streamlined, and in the livery of red and gold which is to be the future standard for the Coronation Scot; it is also good to see that every effort is being made to maintain the spick-and-span conditions of the L.N.E.R. streamlined "A4" Pacifics, whose brilliant blue coats are in themselves an antidote to war depression, just as the various and beautifully kept green hues of the Southern Railway engines are equally a tonic for low spirits.

PUBLICATIONS RECEIVED

Victorian Railways Posters.—We have received from the Victorian Railways Commission a series of colourful posters depicting the attractions of resorts served by the system. An interesting feature of the posters is that they bear the inscription "Take a Kodak" which suggests that they are issued in collaboration with an industrial organisation which presumably bears part of the cost.

F. & P. Products.—We must plead guilty to not having consciously realised

the extraordinary range of machinery produced by Fielding & Platt Limited, of Gloucester, for naturally our attention has always been concentrated on the railway side of the maker's business, more particularly wheel drops, and presses, tyre lip rollers, wagon tippers, and rail benders. But in a brochure "The Products of Fielding & Platt," just issued from Gloucester, another 70 different products are listed, and many of these are of direct interest to the outdoor and indoor machinery sections of a chief mechanical engineer's

department. Excellent illustrations and brief descriptive matter bring out the salient features of all the most important products.

Spray Painting.—Although containing matter relating only to B.E.N. equipment the 32-page catalogue sent by B.E.N. Patents Limited, of High Wycombe, Bucks, might well be regarded in the light of a comprehensive introduction to the subject. It contains full and illustrated particulars of spray guns and extensions, complete mobile plants, stationary machines, and constituents such as compressors, exhaust fans, paint strainers, and respirators.

THE SCRAP HEAP

TRAIN TOOK THE WRONG TURNING

An Inner Circle train took the wrong turning today. Passengers in the train, preparing to get out at Paddington (Praed Street) were surprised to find the train running into the Hammersmith and City line platform in the main-line station. The wrong turn was due to a signal error, and after a short delay the train was reversed as far as Edgware Road and then put on to its proper track.—From the "Evening Standard" of August 8.

Negligible 20 years ago, industrial research is our fastest-growing profession. One outstanding example of the benefits of industrial research is the Corning Glass Company, where the research laboratory dates from 1908. The very first problem solved was the development for railway trainmen of a lantern globe which wouldn't break in the rain. Today the signal lights that gleam along the railroad are the same beautiful red, yellow, or green wherever we may be. It was not always so. Years ago, the railroads came to Corning saying, "We have 32 shades of green. Some of our yellows look red in murky weather; more dangerous, some of our red lights actually look yellow. Try to straighten this out." Corning determined by test the most readily distinguished red, green and yellow. The resulting color standards were adopted by all American and many foreign railroads.—Condensed from "The American Mercury," in "The Reader's Digest."

CONVEYING INFORMATION

To the Editor of *The Times*,

SIR,—In ungrammatical, illiterate, and characteristic language the Ministry of Information announces that "Lord Perth has resigned consequent upon certain changes. . . ." Could not Government Departments be instructed to use the King's English?

I am, Sir, your obedient servant,

HENRY STRAUSS.

House of Commons, July 29.

"Because of" would have been better, but the Ministry has conveyed

its piece of information beyond any doubt, and cannot therefore be accused of failing to act up to its name.

Railway passengers at times exhibit an almost uncanny ability to do the wrong thing and, but for the vigilance and energies of the company's employees, would in many cases pay the penalty for their carelessness in serious inconvenience and loss. In spite of the efforts made on their behalf it occasionally happens that a passenger lands him or herself in a more or less serious predicament, and an instance of this occurred on the L.M.S.R. in somewhat unusual circumstances. A farmer who was to act as chairman at the annual Fat Stock Show dinner at Bletchley, timed for 7.30 p.m., arrived on the platform at Willesden Junction station at 5 p.m., after attending Smithfield market, just as a down train was leaving; he jumped in and was carried through to Rugby. Much perturbed at this *contretemps* he just managed to board an up train that was already on the move—and was carried back again to Willesden. They were singing "Auld Lang Syne" when eventually he reached the scene of the function at which he was to have presided.

RAW DEAL FOR A RAILWAY

Because the United States War Department will not allow any structure blocking navigable waters it is costing the New York Central Railway £150 every time the Douglas family wants to go for a trip in their battered 16 ft. launch *Dottie*. The boat, unused for years, is anchored in a small bay in the Hudson River. The mouth of the bay is spanned by the main railway line, over which passes the famous Twentieth Century Limited. It is a drawbridge, but since it is practically never opened, the railway years ago laid permanent rails. This imprisoned *Dottie*, but her owner, Raymond Douglas, didn't mind until a month ago, when he wanted to sail two miles across the river to buy hot dogs. His boat was unable to get under the bridge. Douglas

wrote to the War Department, which ordered the railway to let the boat through. So now every Sunday the railway sends sixty men to tear up the lines so that *Dottie* can get out, replace them, then tear them up again when *Dottie* comes back two hours later. Douglas says he'll be glad to sell his boat to the railway company.—From "The Daily Mirror."

EFFICIENCY

The visitor was being shown round by the head of the up-to-date business house.

"Who is that dapper youth at the glass-topped desk?" he asked.

"He is the superintendent of the card index system. He keeps an index showing where the index cases are."

"Who is the young man with the white spats?"

"He keeps an index showing the length of time it takes to index the indexes."

"Who is the girl with the golden hair?"

"She decides under what index an index to the index of the filing cabinets should be indexed."

"And who is the grey-haired man at the disordered desk in the corner?"

"Oh, that's old Joggs. He doesn't fit in very well with the rest of the office, but I keep him. He's the only member of the staff who can find important papers when I want them in a hurry."—From the "South Australian Railways Institute Journal."

GERMANY v. THE REST

A. U. Stria, run out	..	0
C. Slovakia, c. Chamberlain, b. Hitler	..	0
P. O. Land, c. Stalin, b. Hitler	..	10
D. Enmark, run out	..	0
N. Orway, c. Quisling, b. Hitler	..	1
H. Olland, retired hurt	..	2
B. Elgium, st. Leopold, b. Hitler	..	3
Luxembourg, b. Hitler	..	0
F. R. Ance, c. Daladier, b. Hitler	..	20
G. B. Ritain, not out	..	20
A. Merica, to bat.		

Close of play, 56 for 9.

Scorer: Dr. Goebbels.

Umpires: Ribbentrop and Göring.

The above score sheet has been compiled in London shipping circles.

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

WESTERN AUSTRALIA

Strengthening of Bridges

With the construction and placing in traffic of heavier and more powerful locomotives to meet modern operating conditions it has been found necessary to strengthen a number of bridges throughout the system, and in 1937 a programme was framed and work began on the progressive strengthening of those bridges weaker than 14 British units to bring them to that standard. Work on this programme has proceeded steadily since that time, and the bulk of the bridges on the main lines have now been attended to. One of the principal works carried out under this authority was the strengthening of the bridge over the Swan river at Guildford, on the suburban portion of the main Eastern Railway, where the original timber trusses were replaced with steel girders in addition to renewals of piles and other maintenance work. In another instance a bridge over the Dale river at Dalebridge, on the main Great Southern Railway, was replaced by an entirely new bridge. The results of these works will be reflected in the use of heavier engines and consequent haulage of increased loads over sections previously restricted by the limitation of the existing bridges.

Financial Results

The financial results as published in the quarterly report of the Commissioner of Railways for the three months ended March 31, 1940, disclose a loss for the quarter of £76,498 after payment of working expenses and interest. The loss for the corresponding period of 1939 was £16,806. The increase of £59,692 in the deficit for the period was entirely due to a reduction in goods and live-stock earnings, the figures being £868,800 for 1940 against £975,200 for the March quarter of 1939. Unsettled conditions in respect of shipping retarded the movements of wheat and timber for export, resulting in a diminution of earnings from these commodities, while superphosphate traffic to the farming areas was less than last year.

In an effort to counteract the decline in business, economy measures introduced during the first half of the fiscal year were maintained, and, as a result, working expenses for the March quarter of 1940 were £51,608 lower than in the corresponding period of the previous year. One of the principal features contributing to this decrease was a reduction of 260,413 train-miles, of which the decline in goods traffic accounted for 228,067 train-miles.

For the nine months ended March 31 a loss of £301,173 is shown, compared with a loss of £273,102 during the preceding year, an adverse result of £28,071.

ARGENTINA

Express Derailed by Motorcar

The serious derailment of the Sud Atlantic express at a level crossing, in which four lives were lost, and which was entirely due to the recklessness of a motorist, occurred on the B.A.G.S.R. on May 27. The express, which was made up of a locomotive and tender, 2 brakevans, 1 postal van, 2 second class, and 2 first class day saloon coaches, a restaurant car and 6 sleeping cars, had left Buenos Aires for Bahia Blanca on the previous evening. As it was passing over a level crossing near Calderon station, a short distance from Bahia Blanca, it was run into broadside by a motorcar, the driver of which saw the train approaching and put on speed in an imprudent attempt to cross the line in front of it. The crossing in question is visible for a distance of two miles and is provided with all necessary signs and warnings; also the signals at the adjoining Calderon station are in sight. The car, which is estimated to have been travelling at 60 m.p.h., crashed into the side of the tender with such force that the tender became detached from the engine and derailed, dragging eight coaches with it. The two brakevans immediately behind the tender were seriously damaged, and the postal van, swinging round, turned over on its side and came to rest at an angle of nearly 90 deg. with the track. The wreckage of this van was mounted by one of the second class coaches, which in turn was mounted by the other coach of the same class. The next two vehicles, the first class day saloons, were partly telescoped, and the restaurant car, though completely derailed, remained upright. The six sleeping cars remained on the track, and, although the passengers were shaken, no injuries occurred in this part of the train nor in the restaurant car. In view of the extent of the damage, it is surprising that the casualties were not more numerous. The driver of the motorcar, two men employed in the postal van, and another railway employee who was travelling as a passenger were killed, and eighteen persons injured.

Working Results

The following table shows the comparative gross receipts of all the State lines during the last four years:—

Lines	1936	1937	1938	1939
	\$	\$	\$	\$
C.N. Argentine	56,765,127	56,805,126	86,407,093*	92,304,528
Eastern	1,451,760	1,649,607	2,076,670	2,551,966
San Antonio	2,433,631	3,021,773	3,046,966	2,601,919
Central Chubut	431,993	478,579	472,313	487,527
C. Rivadavia	404,884	460,785	524,191	433,242
Pto. Deseado	321,049	325,539	313,090	289,569
Total	61,808,444	62,741,409	92,840,323	98,668,751

* As from February 1, 1938, the returns of the Córdoba Central Railway are included in the C.N.A. receipts

To the above totals have to be added sundry miscellaneous receipts, bringing the grand total for the year 1939 to \$100,719,009, against which must be placed expenses aggregating roughly \$80,020,205, an increase of some \$32,000,000 as compared with the year 1936. The working expenses of the C.C.R. during the year 1937, prior to its purchase by the Government, amounted to \$22,874,742.

The working of the C.N.A., Eastern, San Antonio and Chubut lines during 1939 resulted in a surplus of \$20,698,304 pesos, distributed in the proportions shown in the appended table.

Lines	Receipts	Expenses	Surplus
	\$	\$	\$
C.N. Argentine	94,341,022	74,477,087	19,863,935
Eastern	2,551,966	1,987,474	564,492
San Antonio	2,615,684	2,337,188	278,495
Central Chubut	487,527	399,921	87,606
C. Rivadavia	433,241	481,814	- 48,573
Puerto Deseado	289,569	336,721	- 47,151
Total	100,719,009	80,020,205	20,698,804

Revised Grain Estimates

The revised figures in the third grain crop estimate, issued by the Ministry of Agriculture, are as follow:—

	Tons
Wheat	3,251,000
Linseed	1,014,400
Oats	872,600
Barley	851,100

Compared with the previous official estimate, the above figures show increases of 39,000 tons (1.2 per cent.) in wheat and 51,100 tons (6.4 per cent.) in barley. On the other hand, the linseed estimate is 112,600 tons (10 per cent.) lower, and oats 51,400 tons (5.6 per cent.) lower.

UNITED STATES

Road Vehicles Crashing into Sides of Trains

According to a recent report of the Bureau of Statistics of the Interstate Commerce Commission, no less than 36 per cent. of the level crossing collisions which occurred in 1939 were due to the drivers of road vehicles crashing into the sides of trains. The figures given are: 1,096—out of a total of 3,079 such collisions—were due to this cause, resulting in 215 deaths and 1,623 injuries. [A serious instance of this error by a motorcar driver, causing the derailment of a 14-car crack express in South America is recorded above—Ed., R.G.]

Accidents at Protected Crossings

Of 844 level crossing accidents occurring at night, no fewer than 339, or 40 per cent., took place at lighted crossings. Also, in 124 collisions in daylight and 356 at night the crossings were protected by closed gates, watchmen, trainmen or audible or visible signals.

ROAD TRANSPORT SECTION

This section appears at four-weekly intervals

The Burma Road

WE have already referred to the world-wide interest taken in the British agreement with Japan to close the Burma Road for three months to the transport of war supplies to China (see our issue of July 26, page 86). This agreement between Great Britain and Japan, which is designed with the object of settling the questions of the Burma Road and Hong Kong, provides that the British Government is to prohibit for a period of three months from July 18 the transit from Burma of arms and ammunition as well as petrol, motor lorries, and railway materials. On June 24 the Japanese Government requested the British Government to take measures to stop the transit to China *via* Burma of war material and certain other goods, and a similar request was made in respect of Hong Kong. Actually the export of arms and ammunition from Hong Kong has been prohibited from January, 1939, and the present agreement provides that all categories of goods now prohibited in the case of Burma will also be prohibited in Hong Kong. Through motor traffic from Burma to China in non-prohibited goods has now been resumed, according to a communique issued in Rangoon on August 6. All transport had been suspended while arrangements for the strict enforcement of the Anglo-Japanese agreement were being worked out. Motor traffic is now allowed on certain conditions, the chief of which is that lorries may carry only sufficient petrol to take them, with a full load, to their destination in China and back. It is understood that lorry owners must enter a bond guaranteeing the return of the lorries, so as to prevent the vehicles being "imported" into China in contravention of the British agreement.

Indian N.W. Frontier Roadmaking

IN that turbulent area known as the North-West Frontier of India, where military operations against unruly Pathan tribes are almost continuous, roadmaking is the soundest means of pacification and subjugation where railways are not feasible. Large forces of Indian troops, stiffened by British officers and units, are distributed over the whole frontier area—which consists almost entirely of great barren and inhospitable mountain ranges separated by stony valleys—and these forces have to be transported and provisioned by motor transport requiring good roads. Stone is plentiful, but bridging on many of the roads is heavy. An important link in this road system is at present under construction to connect the Baluchistan roads and railways, centred upon Quetta, with the far-flung road and rail system of the North-West Frontier Province, radiating from Peshawar. This link will directly connect Fort Sandeman, the railhead of the N.W.R. 2 ft. 6 in. line from Bostan junction on the broad-gauge system, with Tank, another 2 ft. 6 in. railhead, and Dera Ismail Khan. Previously there were only footpaths between these points, and heavy transport had to make a detour hundreds of miles round by Multan, in the Punjab plains, Rohri and Sukkur in Sind, and Sibi and Quetta in Baluchistan. The importance of the new road cannot, therefore, be over-estimated, but it will require some efficient engineering construction as the country traversed is very difficult. Shortly before the 1914 war, a railway was surveyed from Tank to Fort Sandeman. The almost insuperable Gumal river gorge had to be negotiated and it proved prohibitively costly. The road, with its steeper gradients, has, presumably, been able to find an easier route. Commercially, the new road, in common with most others in that

part of the world, will be of little value, but from the administrative and military points of view it should prove invaluable.

Goods Vehicle Operation in Emergency

AS we recorded briefly in THE RAILWAY GAZETTE of August 2, the Road Goods Transport Special Emergency Committee, which was set up by the Minister of Transport on May 9, and of which the Chairman was Mr. Sidney E. Garecke, has made its report to the Minister of Transport on the operational and financial management of goods vehicles should the necessity arise to transfer them from their normal base to another place. For a number of reasons the Minister did not think it possible to accept the proposals of the committee, but he acknowledged a very thorough examination of a difficult problem. The committee's report was based on four conclusions which were regarded as fundamental: (a) that a comprehensive scheme to provide for the operation of transfer vehicles was essential in the interests of economy and efficiency; (b) that powers to requisition vehicles should be used only as a last resort; (c) that nevertheless the scheme as a whole should be equally capable of dealing with both requisitioned and voluntary private vehicles; and (d) that the principal of entrusting the actual operation of transfer vehicles to another operator on a management fee basis was uneconomical, wasteful, unsound, and presented practical difficulties. The committee held that a standard scale of payment should be fixed for the hire of all transferred vehicles. It was also suggested that a standard form of contract should be drawn up so that the owner of transferred vehicles might know the terms which would apply when he transferred his vehicle. The scheme which the committee proposed centred upon the setting up of an Emergency Road Haulage Board as a statutory body, the operations of which would not cover non-Government traffic carried by traders' own vehicles or by hauliers' vehicles under private arrangements with traders. Should these private operations be found to impede the work of port clearance, the board would intervene by (a) requesting the Government to restrict the hours of private operations (powers would be sought for this purpose should this prove necessary), and (b) moving goods if required to do so by the Port & Transit Emergency Committee in exercise of its emergency functions.

In thanking the committee for its work, the Minister agreed that the requisitioning of vehicles was undesirable but pointed out that provision had to be made against its possibility, and that to some extent certain of the arrangements referred to by the committee had already been made. Uncertainty as to the magnitude and the location of transport difficulties due to enemy action afforded strong arguments in favour of the decentralised organisation. To put into operation at short notice during an emergency a scheme which involved extensive changes in machinery for handling road transport would be attended by a serious risk of confusion. The Minister also believed that certain aspects of the financial basis of the scheme appeared to be open to criticism, and that there would be considerable difficulty in setting up a statutory board, a number of the members of which were financially interested in the operation of road transport. The Chairman made a reservation to the report of the committee to the effect that, while he was in general agreement with the recommendations of the scheme, for reasons of time he had not been able to examine it in sufficient detail to make himself party to a recommendation for unqualified adoption. He did point out, however, that the constitutional and financial

aspects of the proposal would require careful consideration by the Government. It would appear from the Minister's decision that his advisors were also of the opinion that the issues concerned were such that action involving the possibility of widespread repercussions was undesirable at a time when the most detailed consideration could hardly be given to all aspects of the problem.

Ribble Motor Services

THE death of Mr. W. S. Wreathall last autumn was a great loss to Ribble Motor Services Limited, of which he was Chairman, but in electing Mr. Sidney E. Garcke in his place the directors secured the services of one whose position in the industry is unchallenged and whose public pronouncements are a valuable guide. Mr. Garcke was not a member of the Ribble board before his election as Chairman, but he had been a colleague of Mr. Wreathall on the directorates of several other companies and had been associated with him in the development of public transport for many years. When for the first time Mr. Garcke addressed the shareholders of Ribble Motor Services in annual meeting on June 28 he was able to deal with the operations of the fleet of the company. In view of the wide difference in the

geographical position of the areas served, it is interesting to note the similarity of experience of the Ribble company and the Southdown which Mr. Garcke had explained at the meeting in Brighton, and which was the subject of comment in our issue of June 28. Before the outbreak of war the company had a good summer, but since it became necessary to cut down fuel supplies revenue had decreased because of the impossibility of providing all the services called for by the public. Although costs were rising steadily, they had not done so immediately on the outbreak of war, and the results of working during the winter had been unusually satisfactory. Pointing out that the cut in mileage had resulted in the more efficient loading of the vehicles, and at the same time had reduced expenditure, Mr. Garcke warned shareholders that they could not expect this position to be repeated next winter. He did not attempt to forecast the effect of the war on the company, but contented himself with disclosing that since the opening of the financial year net revenue had been well maintained. Activity in the district tends to increase, but difficulties of operation are also likely to become greater, and costs are rising. On balance he did not think that they could expect results for the current year to compare favourably with those just achieved.

Road Transport and the War—12

Progress in the construction of Reichsautobahnen—New roads planned for Poland—Road transport and Home defence—Wartime fuels

Despite the difficulties in securing particulars about activities in Germany, there are still some reliable neutral sources of information available, and the collated data concerning the progress of the *Reichsautobahnen* indicate that the past few months have seen the completion of many missing links in the network. Confirmation on a number of doubtful points is provided by the aerial survey photographs secured by the R.A.F. in frequent and widespread reconnaissance flights over German territory, some of which have been made available to the press. It will be recalled that, in our November 17, 1939, issue (page 639), we showed that there were no good grounds for supporting the view put forward by a French military theorist—which received considerable publicity—that the *Reichsautobahnen* were comparatively useless. He suggested that additions to the original scheme had diffused efforts, and alleged that lack of purpose to complete roads could be discerned. We, on the contrary, adduced reasons for believing that Germany possessed in her system of motor roads a valuable military asset, and expressed the opinion that prudence in conserving supplies which were not readily replaceable was the primary reason for reserving road transport for a lightning stroke. Events have amply justified this view, and the continued attention which the R.A.F. has devoted to the disabling of this motor road system clearly indicates the military importance that our own authorities attach to the *Reichsautobahnen*.

Development of the Reichsautobahnen

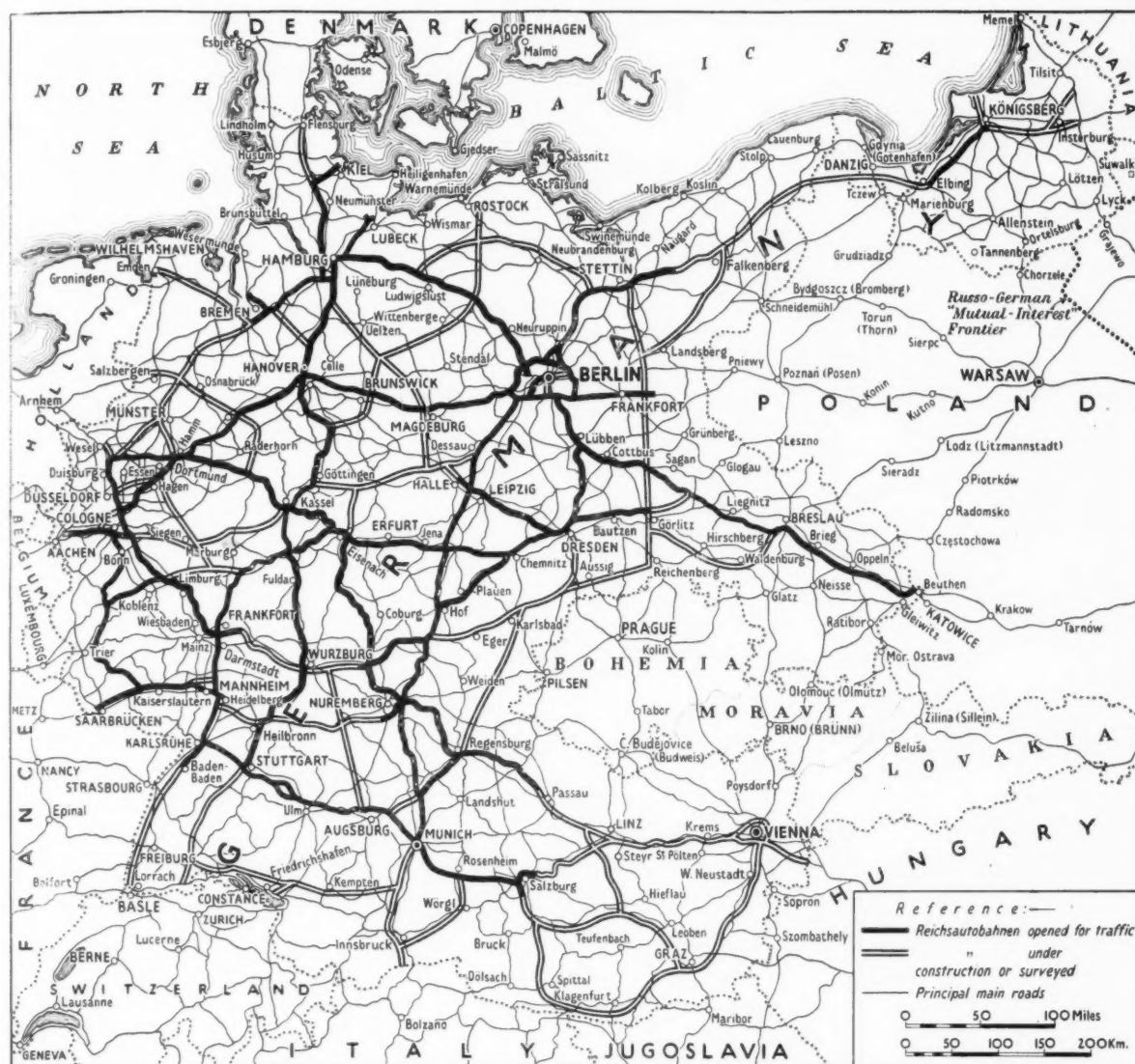
From the new map we reproduce it will be seen that Hamburg has now been linked with Kiel, Berlin, Hanover, and Göttingen (completing the through road from Hanover to Baden-Baden). Another new section, from the road junction north of Fulda to Stuttgart, completes the link between Hamburg and Salzburg, and provides alternative routes between Stuttgart and Kassel. The recently-completed Nuremberg—Eisenach section (together with the Eisenach—Kassel portion of the east-west route) makes an even more direct link between Salzburg and Hamburg. Short new pieces near Salzburg give access to important aircraft factories. The new Hamm—Kassel—Jena stretch makes a through road from the Rhine and Ruhr districts to Dresden, and the short piece between Eisenach and the road junction north of Fulda gives direct access to the Frankfurt-on-Main

area. Dresden has become an important road centre by reason of this new east-west route, and of Dresden—Leipzig, Dresden—Lübben—Berlin, and Dresden—Chemnitz—Hof, radial lines, of which only parts were completed when we published our map on November 17, 1939. The Lübben—Berlin portion is actually part of the Berlin—Lübben—Cottbus section, now completed, and therefore a link in the through Berlin—Beuthen route that has become available, as the Briesg—Gleiwitz section is also finished. Regensburg has become a centre, with new roads radiating to Nuremberg (and onwards to the Ruhr and to Hamburg), to Munich, and towards Passau. Although we use such words as "completed" in connection with these roads, it is obvious that in wartime the term may mean no more than usable, and it is unlikely that finishing touches and the provision of amenities are being tackled.

Motor Roads in Poland

The German paper *Die Strasse* (The Highway) recently gave particulars of the plans under consideration for extending the German motor road system into the former German parts of Poland and for building connecting roads in the "Remainder State." When the *Reichsautobahnen* were first planned, the statement says, a motor road from Berlin to Königsberg was planned but, of course, with a break in the Polish Corridor unless some agreement could be reached with Poland. Such a road would naturally involve a connection with Danzig. Since the invasion of Poland the possibilities of planning an uninterrupted scheme have changed and the through Stettin—Elbing road which is now a practical possibility will pass through some exceptionally beautiful country and will approach within 12 km. (7½ miles) of Danzig. The Berlin—Stettin road was completed in September, 1936, and since March of the present year the eastward extension from Stettin has been finished to a point west of Falkenberg. Before the war, the East Prussian section between Elbing and Königsberg was well advanced, and this seems to have been opened (at any rate for military traffic) in connection with the invasion of Poland. On September 18, 1939, the Governor of Danzig & West Prussia turned the first sod of the *Reichsautobahn* on former Free State territory (see our issue of January 12, 1940, page 51), but no information is available of the progress here.

In addition to this Baltic coast route, a more southerly



Sketch maps showing the considerable progress recently made in the construction of motor roads in Germany

route is planned, passing through Landsberg, Bromberg, Tannenberg, and Lyck, on its way from Berlin to Suwalki, eventually forming a link in the projected trans-continental road connecting Berlin and Moscow. *Die Strasse* says that it is not clear how soon work on this route can be begun. An extension of the Berlin—Frankfurt-on-Oder road to Lodz is under consideration. The Berlin—Breslau—Silesia road is to be extended through Katowice to Krakow. The chief north-south road in the new area would be Danzig to Breslau, via Bromberg and Posen, with a connection from Gotenhafen (Gdynia) and a junction with the Berlin—Königsberg road. A route from Danzig to Thorn is also under review.

Further south there is no evidence of motor road construction. During 1938 motor roads were stated to have been begun in Austria on April 7 and in Sudetenland on December 1. In addition, an agreement between Germany and Czechoslovakia was made on November 19 of that year for the construction of a motor road between Vienna and Breslau, via Brünn. The last-named would link up with the projected Breslau—Danzig road to link eastern Austria with the Baltic, but there is no suggestion that any progress has been made in these southern regions. If construction were

begun in earnest it is probable that every effort would be made to prevent the fact being revealed outside Germany, in view of the political implications of such a step.

Traffic Regulation in Event of Invasion

In the Eastern Civil Defence Region, the Regional Commissioner on July 17 issued directions designed to deal with traffic in the event of invasion. These directions give power to Chief Constables at the request of a Corps or Divisional Commander to exclude all traffic from any specified roads, or to prohibit the use of motor vehicles within areas which may be specified, other than traffic and vehicles deemed essential in the circumstances.

Evacuation Areas

The Minister of Home Security on July 18 announced that he had declared certain coastal areas in East Anglia and on the South East coast to be evacuation areas for the purpose of the Defence (Evacuated Areas) Regulations, 1940. This is of importance to bus operators who acquire their vehicles under hire purchase arrangements, for persons who leave these areas may secure relief (by way of postponement of

liability to pay) in respect of rent, rates, and certain other charges or debts relating to premises or goods in the evacuation area; sums due under hire purchase agreements are specifically included. Details of the reliefs are contained in the Defence (Evacuated Areas) Regulations, 1940 (S.R. & O. No. 1209 of 1940).

Removal of Road Blocks

As a result of the progress which has been made in defence preparations in England, it has been found unnecessary to retain the road blocks which had been erected freely in many parts of the country. It is reported that the General Officer Commanding-in-Chief, Northern Command, acting in collaboration with the North Midland Regional Commissioner, is removing all except single road blocks, and where possible these will be cut back. The blocks were a serious obstruction to traffic.

Road Vehicles during Air Raids

Guidance has been given by the Ministry of Home Security as to the behaviour of motor vehicles after an air raid warning has been sounded. On July 18, in view of a number of enquiries which had been made, the Ministry announced that drivers may proceed after a warning if they have good reason for doing so. If the warning is given at night, headlamps should be extinguished, and side and rear lamps should be kept alight while the vehicle is on the road. Instructions by Police Officers or members of armed forces must be obeyed promptly by drivers.

Camouflage of Road Vehicles

The Ministry of Home Security has taken powers to require owners of vehicles to render them less visible from the air. On July 24 the Ministry issued a notice making it clear that action to this end need not be taken until further instructions are issued. It was stressed that in any event it was not the intention of the Government that civilian cars should be camouflaged like Army vehicles, and on August 10 the Minister made an Order prohibiting the use on any highway by an unauthorised person of any vehicle camouflaged like an Army vehicle. The Minister also made it known that there is at present no intention of requiring owners of vehicles to repaint them, but should they wish to do so they should avoid glossy surfaces and light colours and be careful not to adopt the colours or style used for service vehicles.

Extension of Licences

On July 31, the Minister of Transport made an Order extending the validity of the public service vehicle driver's and conductor's licences and permits for a further twelve months from that date. At the same time, the period of validity of the permits was raised for future issues to two years. Holders of ordinary driving licences, whether full or provisional, which authorise the driving of vehicles in Group I only, or a National Service driving licence authorising the driving of vehicles of all descriptions, may now drive a heavy goods vehicle without further licence or permit.

Purchase Tax Incidence

Among the articles which will attract the Purchase Tax introduced in the interim Budget are road vehicles and cycles, which will bear tax at the rate of one-sixth of the wholesale value. Tramcars, buses, trolleybuses, and motorcoaches will be exempt.

Ban on Purchase of New Vehicles

An Order by the Ministry of Transport came into force on July 20, under which the buying of a new unregistered motor vehicle was prohibited unless a licence had been obtained from the Ministry. Included in the ban were both passenger and goods vehicles and all vehicle chassis. It was also stated that the supply of new commercial vehicles was very limited but that any person wishing to buy a new bus or coach or goods vehicle should submit an application to the appropriate Regional Transport Commissioner. He would be required to state the work for which the vehicle was required; work already performed by any vehicles already owned; the type, class and make of the desired purchase; and (in the case of

replacement) particulars of the vehicle which it is intended to replace; that every effort had been made to obtain a suitable second-hand vehicle; and that it was impracticable to use alternative means of transport for the purpose in view. The Order does not apply to tramcars or trolleybuses, invalid carriages, or motorcycles (unless the last named are adapted for carrying goods), or to certain other vehicles such as those used by fire brigades and for certain agricultural purposes.

Producer-Gas Engine Stoppage

In order that an engine operating on producer gas need not be stopped when the vehicle is at rest, as required by the Motor Vehicles (Construction and Use) Regulations, 1937, the Minister of Transport has made the Motor Vehicles (Construction and Use) (Amendment) (No. 2) Provisional Regulations, 1940, under which the original rules do not apply "in the case of a motor vehicle which is propelled by gas produced in a plant carried on the vehicle or on a trailer drawn by the vehicle."

Vehicles using National Fuel

According to a statement made recently by Sir John Reith, a total of 605 goods or public service vehicles was converted from petrol to gas operation between September 30, 1939, and June 30, 1940. The increase in licensed electric battery goods vehicles between August 31, 1939, and May 31, 1940, was 578.

Producer-Gas Fuels

The British Coal Utilisation Research Association has issued a statement reading as follows:—

"In view of the excellent results obtained by operators using Suncoke and Motor Coalite, it is very disappointing that supplies on the scale anticipated by the Hartley Committee, sufficient to supply several thousand vehicles, cannot be obtained.

"The Joint Committee of the Coal and Carbonisation Industries has been making every effort to find alternative supplies of suitable fuel, and with the assistance of the British Coal Utilisation Research Association has been investigating a large variety of suggested fuels.

"Two valuable additions to the producer gas fuel supply have recently appeared in the form of Rexo, manufactured by the Coal Research Syndicate Limited, of Mansfield, Nottingham, and Oco, produced by the Ocean Coal Co. Ltd. of Cardiff.

"These two fuels have been certified by the British Coal Utilisation Research Association as conforming to the specification of the Producer Gas Fuels Committee of the Coal and Carbonisation Industries, and can confidently be purchased by operators. In addition to the chemical test, both the fuels have been proved by extensive road trials.

"The fuel produced by the Ocean Coal Co. Ltd., Oco, is at present available only in small quantities from a pilot plant, but production on a commercial scale will be gradually developed."

Wider London Transport Powers

The London Passenger Transport Board (Public Service Vehicles) (Amendment) Order—S.R. & O. No. 1300—which has been made by the Minister of Transport under date July 6, considerably extends the powers of the board to run contract carriages outside the London Transport Area. In March last the board was authorised to run public service vehicles as contract carriages on roads outside the area for the purpose of evacuating persons from places within to places outside that area. The present Order allows the board to operate vehicles as contract carriages for any purpose which appears to the Minister to be in the interests of public safety, the defence of the Realm, the efficient prosecution of the war, or the maintenance of supplies and services essential to the life of the community."

Road Traffic in the Netherlands

The German Governor in Holland has ordered the introduction of speed limits for motor traffic on all roads, including the special motor roads; 25 m.p.h. is the limit in built-up areas, elsewhere 50 m.p.h. for passenger vehicles not seating more than 8, and 38 m.p.h. for all other passenger and goods vehicles. Road transport is severely restricted by the petrol rationing. Goods traffic is limited to routes which cannot yet be served by rail, and to short distances, in most cases under 25 miles. The railway must be used for long-distance transport where possible. Licences for transport by trader's own vehicles are hard to obtain.

Trolleybus Conversion in London

Work on this scheme has been suspended for the duration of the war. There are now 256 route miles of trolleybus service and 102 miles of tramway

AT the time of the formation of the London Passenger Board, in 1933, it will be remembered that the board acquired the tramway and light railway undertakings of all the local authorities within its area and also of the three company-operated systems previously in the Underground group. These amounted in total to 327 route miles of running line, practically all of which was double track, as the total length of all running line tracks amounted to 635 miles. In addition London Transport acquired from the London United Tramways Limited 18 miles of trolleybus route that have previously been converted from tram routes in the Kingston neighbourhood. Subsequently, the board secured Parliamentary powers to convert to trolleybus working further portions of its tramway system and eventually Parliament sanctioned complete conversion.

In general, the scheme adopted was to convert first the outlying portions of the combined tramway system covering the South Metropolitan; London United; Metropolitan Electric; the Walthamstow, Leyton, West Ham, East Ham, and Ilford group of lines; and the Bexley, Dartford, and Erith systems. Next it was decided to tackle the old L.C.C. lines north of the Thames, some of which had already become involved in the conversion of the outlying Metropolitan Electric routes by reason of their running between central London points and Middlesex and Hertfordshire termini.

On the outbreak of war the broad policy of the London Passenger Transport Board with regard to the new works was that those which were well in hand should be prosecuted to completion so far as was possible, but that no new tasks should be undertaken. On this basis trolleybus conversion has continued until the whole of the tramway system north of the Thames has now been changed over, with the exception of the lines on the Thames embankment (which really form part of the South London system); the Kingsway tramway subway; and a section of line between Theobalds Road (Holborn) and Manor House, which is equipped for dual tram and trolleybus working so as to enable Kingsway subway cars to reach a convenient terminus in North London at Manor House.

The final conversion took place on June 9. Some of London's busiest tram services ran for the last time on Saturday, June 8, and were replaced on the Sunday by trolleybuses. The tram services concerned were route No. 65 between East Ham, Poplar (Blackwall Tunnel), and Bloomsbury, and route No. 67 between Barking Broadway and Aldgate, and covered Commercial Road, East India Dock Road, and Barking Road. The new trolleybus services are No. 665, a daily service between Barking and Bloomsbury; No. 567, a weekday service between Barking Road (Green Street) and Aldgate; and No. 565, a service in peak periods on weekdays between East Ham Town Hall and Holborn. On Sundays there is an additional service between Poplar (Aberfeldy Street) and Smithfield. This conversion completed the trolleybus work in hand at the outbreak of the war and no further work of the kind is being undertaken in present circumstances. London now has 256 route miles of trolleybus service, leaving 102 miles of tramway south of the Thames, on the Embankment, and through the Kingsway subway. The board now owns 1,671 trolleybuses and 1,127 tramcars.

Enlarging Poplar Depot

To effect such an important conversion as that undertaken on June 9 without interruption of services, necessitated careful planning and months of co-operation between the Operating and Engineering Departments of London Transport. The Poplar tram depot, which, with the West Ham depot, houses the trolleybuses for the new routes, had to be enlarged from 215 ft. by 215 ft. by an extension measuring 325 ft. by 160 ft. and the existing building had

to be reconstructed. To obtain adequate floor space, it was necessary to build over the permanent way depot of the tramways, through which 40,000 tons of rails and other material passed every year. For some months the rolling stock engineers had to move their tramcars around the depot to give the builders room to work. The method was to clear one part of the depot of tramcars so that the rails in the floor could be removed and a smooth concrete surface built. Then temporary tram rails were laid on top of the concrete to take tramcars and thus free another area of the floor to the contractors. By the beginning of June all the tramcars were running on temporary rails laid on a smooth floor. Much new equipment was installed, including a large electrically-operated traverser and turntable with which one man can sort the 9-ton trolleybuses and park them in rows pointing the right way to leave the depot in the morning. New offices, stores, and rooms for the staff have also been built.

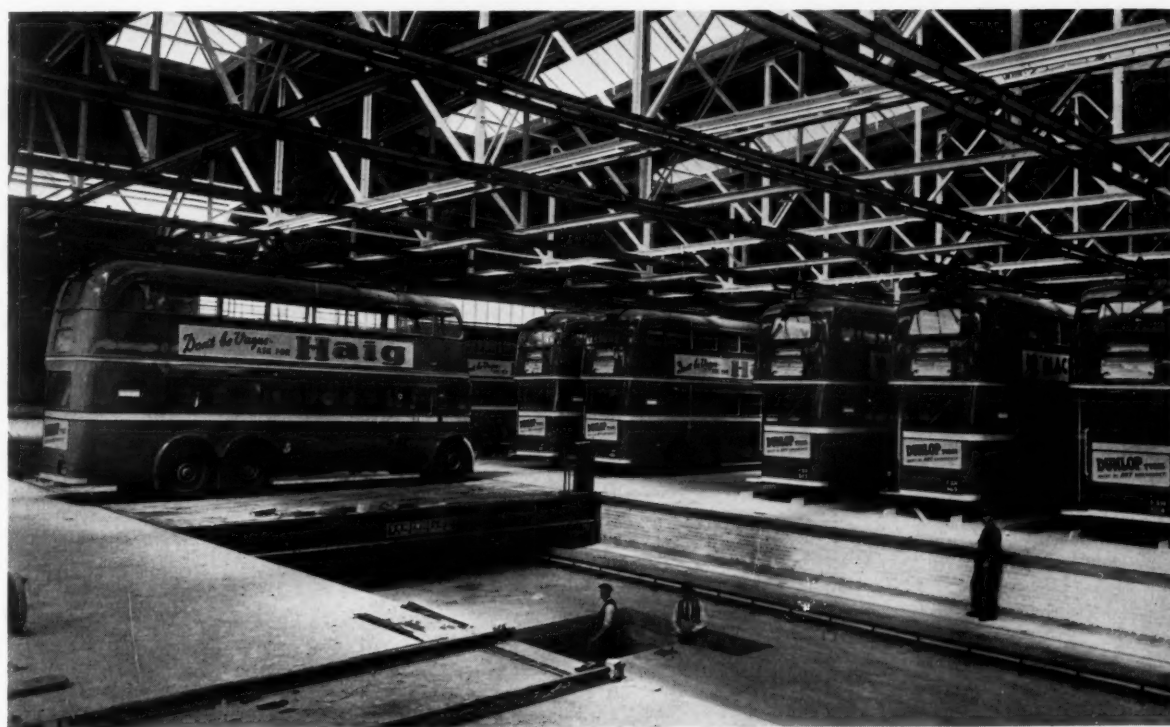
While the depot was in the hands of the builders, the route was being prepared, and the new stopping places inspected and approved by representatives of the police and the Ministry of Transport. The new routes run through 21½ miles of streets, including turning circles, but 15 miles of overhead wire had already been provided for other services, leaving 6½ miles of new overhead wire to be erected, namely, from Gardiner's Corner (Aldgate) to Canning Town, and from East Ham Town Hall to Barking. Part of the original tram track was conduit system laid by the London County Council, and the remainder was equipped on overhead system and was taken over from the West Ham, East Ham, and Barking Councils. Very few of the tramway poles were retained; some 660 poles were erected, with 28 miles of new trolley wire. Turning circles were constructed at East Ham Town Hall, Green Street, Hermit Road, Benledi Street, Poplar, and Arbour Square.

"Infiltration" of Trolleybuses

An interesting part of the conversion was the means by which on Saturday, June 8, the 130 trams running on routes 65 and 67 disappeared overnight and their places were taken early on the Sunday morning by a fleet of 147 trolleybuses. The process, which has been termed one of gradual infiltration, began some weeks earlier. The new trolleybuses were delivered by the contractors to Fulwell depot at the rate of two or three a day. From Fulwell depot they were stored in depots at Stonebridge Park, Hendon, Hounslow, Wood Green, Edmonton, Holloway, and Hackney. When, on May 17, the contractors completed the rear part of the Poplar depot, the work was begun of gradually transferring there some of the buses stored at the more distant depots. There was space for only 35 because the rest of the depot was occupied by tramcars on temporary rails. On the last day of tramway operation the tram service was so arranged that 46 trams which finished their day's work early did not return to the Poplar depot but went straight to Hampstead depot, where they are being stored. This left a large part of Poplar depot clear and at 7 a.m. the permanent way men began the task of removing the temporary tram rails and covering the old tram inspection pits with timber. The permanent way men did not finish until 2 p.m., but all the time trolleybuses were coming in to fill the space left vacant by the removal of the rails. By 6 p.m. there were 65 buses in the depot ready for service the next morning. On the Sunday morning, 14 crews of tram drivers and conductors transferred the remaining 43 trams to Hampstead depot, and completed their job by midday. By 4 p.m. other crews had transferred to Poplar the 35 trolleybuses needed to make up the depot's quota of 100. A similar changeover was effected at West Ham depot, where 41 tramcars were replaced by 47 trolleybuses. Altogether 300 separate shunts were made.



View in the Poplar tramway depot of the London Passenger Transport Board showing temporary tram rails laid on the smooth concrete floor prepared for trolleybuses



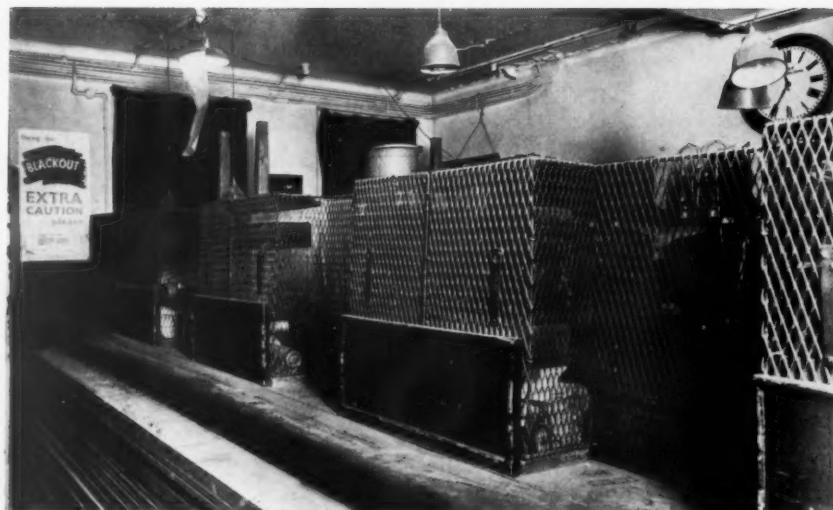
A section of the new extension (325 ft. by 160 ft.) to the Poplar depot built in connection with the most recent conversion to trolleybus working of London Transport. A prominent feature is the new traverser and turntable, of 10 tons capacity, supplied by S. H. Heywood & Co. Ltd., of Reddish



Left : A corner of the new room for conductors at the Poplar trolleybus depot of London Transport. Conductors will be noticed inspecting duty schedules



Right : A general view of the new room for conductors at the London Transport trolleybus depot at Poplar, showing the traffic office in the background



Left : The old traffic office at Poplar tram depot prior to the conversion and enlargement of the depot for the latest trolleybus conversion scheme of London Transport

NEW SPANISH 4-8-2 EXPRESS LOCOMOTIVES

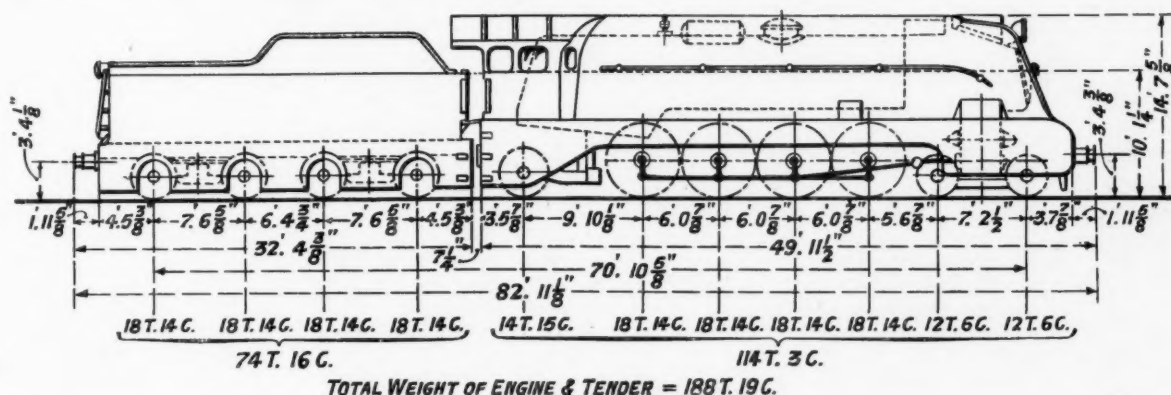
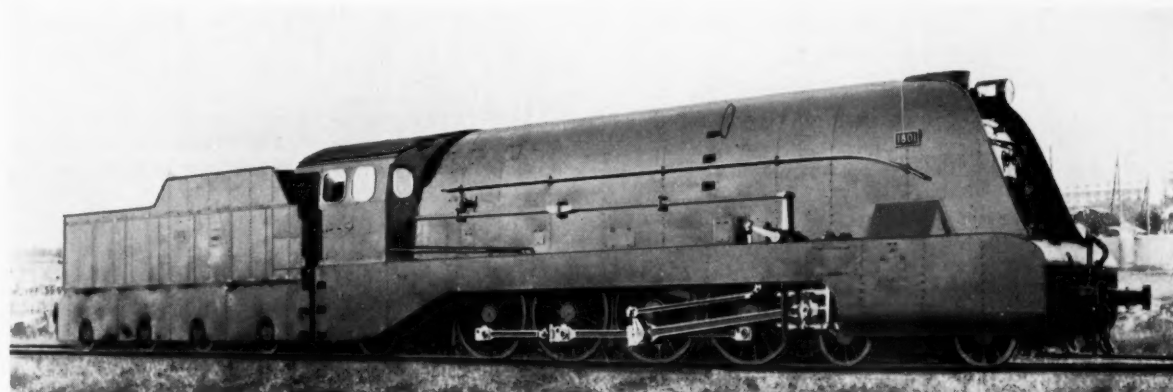
These locomotives for the Madrid, Zaragoza & Alicante Railway are the heaviest and most powerful locomotives yet constructed in Spain

THE locomotives illustrated herewith have been designed and built by La Maquinista Terrestre y Marítima, of Barcelona. They possess a high power capacity and when tested showed an ability to haul trains of 550 tons weight at a speed of 68 m.p.h. on the level, of 50 m.p.h. on grades of 1 in 200, and when running at the higher speed the engine developed 3,000 i.h.p. The design incorporates two single-expansion outside cylinders driving the second pair of coupled wheels, with steam distribution by means of poppet valves on the Lentz system in conjunction with Walschaerts valve motion. The boiler is of large proportions and incorporates a 42-element superheater contributing 1,248.5 sq. ft. to the total heating surface. The temperature of the steam on leaving the superheater reaches 410° C. (770° F.). The boiler pressure ranks among the highest on the Continent, i.e., 20 atm. (295 lb. per sq. in.).

In the construction of the boiler, and in view of the necessity of limiting the axle load to 19 tons, 50-kg. carbon steel plates of a quality similar to that prescribed by the

British Standards Specification were utilised. Nickel-steel was ruled out on account of cost, which prohibited the use of special steels throughout the construction. The boiler is equipped with the A.C.F.I. system of feed-water heating and pump delivery, and in addition there are two live steam injectors. The K.C. blastpipe arrangement with double chimneys is fitted, and, in conjunction with the streamlining, lateral screens and a sloping top plate are used to provide a current of air around the chimney to lift the smoke and steam above the front of the cab.

The cylinder and piston rod packings were made the object of special study, as those hitherto used were not considered adequate for the high boiler pressure. The packings adopted have cast-iron rings coated with a special bronze; they are divided into segments and held against the piston rods by means of exterior springs. These rings are mounted with a certain amount of play in relation to the piston rods and all are contained in a cast-iron box or housing fitted in the stuffing boxes on the cylinder covers. The lubrication of the cylinders and valve gear is



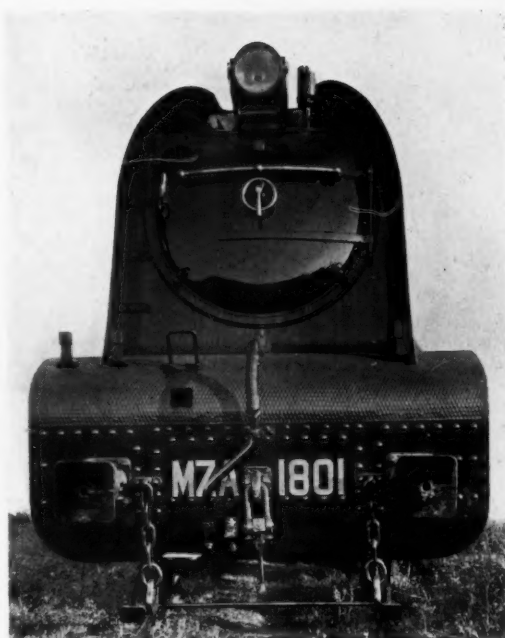
General view and dimensioned drawing of new 4-8-2 locomotive for the M.Z.A.

mechanically effected, and the big ends have oil boxes of the adjustable feed type giving a continuous stream of oil under control. Two of the locomotives of the series have been fitted by way of experiment with grease pressure lubrication to the axleboxes as well as to the guides and other parts.

The tender is carried on two four-wheel bogies with 3 ft. 9½ in. wheels, and has high coal and water capacities to enable long runs to be made without replenishing supplies. The tank portion of the tender is formed as an independent unit with three-point suspension, two on the trailing and one on the leading bogie, representing in a sense a unit independent for direct support of the main framing. The construction takes the form of lattice girders resting on the bogies with transverse staying bulkheads, and the coal bunker is in the form of a hopper. These features, it is claimed, have the effect of obviating excessive weight on the axles, and by distributing the weight in this fashion the transverse movements or oscillations when running over curves are reduced. The locomotives, which bear the classification "1800," have main particulars as follow:—

Cylinders, dia.	22 in.
" stroke	28 in.
Driving wheels, dia.	5 ft. 8½ in.
Tubes, length between tube plates	19 ft.
" dia. large (42)	5½ in.
" small (85)	2½ in.
Evaporative heating surface, tubes	2,008 sq. ft.
" firebox	207 sq. ft.
" total	2,215 sq. ft.
Superheating surface	1,249 sq. ft.
Firegrate area	53.8 sq. ft.
Boiler pressure, per sq. in.	295 lb.
Tractive effort (at 85 per cent. boiler pressure)	49,081 lb.
Adhesion weight	74½ tons
Weight of engine, in working order	114½ tons
Water capacity of tender	7,480 gal.
Coal capacity of tender	9½ tons
Weight of tender, full	74½ tons
Total weight of engine and tender	189 tons

In addition to the fittings already mentioned, the equipment of the locomotive includes Wagner floating valve regulator, automatic vacuum brake, speed indicators and electric lighting fittings. The introduction of the new locomotives, of which ten have been delivered and fifteen



Front end of new M.Z.A. 4-8-2 locomotive

more are provided for in the present programme of construction, marks a further step in the big locomotive policy in Spain which was initiated in 1917. The builders, La Maquinista Terrestre y Maritima have recently extended their works, and are now capable of constructing locomotives and other engineering products on an enlarged scale. Their activities in this direction began in 1884 with two small engines, each of 8½ tons weight, for the Barcelona—San Andres tramway, and the new "1800" class brings the number of locomotives constructed by them to over 500.



An unusual London street traffic scene. A Southern Railway locomotive hauling a goods train through Grove Street, Deptford, on its way to the docks

Railways and the War—32



Train of empty coal trucks returning from Italy to the Ruhr district, passing Spiez on the Berne-Lötschberg-Simplon Railway. Some details of the very heavy coal traffic passing from Germany to Italy by railway were given in our issues of March 15, page 388; April 5, page 519; and June 14, page 842



Before the British forces withdrew from France, valuable services had been rendered behind the lines by the Palestinian Auxiliary Military Pioneer Unit, members of which are here seen packing a railway track

War Office photograph]

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RAILWAY NEWS SECTION

PERSONAL

COLONIAL OFFICE RE-APPOINTMENTS

The Secretary of State for the Colonies has recently approved the following re-appointments:—

Mr. P. M. Egan, formerly Assistant Divisional Superintendent, Nigerian Railway, to be Assistant (Locomotive) Running Superintendent, Palestine Railway.

Mr. A. H. Wood, formerly Assistant Traffic Officer, Railway Department, to General Duties, Nigeria.

Mr. Laurie Ells has been appointed Manager of the Dominion Atlantic Railway, with headquarters at Kentville, Nova Scotia. Mr. Ells, who has been Superintendent of the Dominion Atlantic Railway, will in his new position have immediate jurisdiction over all matters pertaining to the operation of that railway.

Mr. David N. Gill has been appointed Manager of the Ottawa Electric Railway Company. Mr. Gill is a native of Grenville, Quebec, and has served with the Ottawa Electric Railway since September, 1904.

We regret to record the death of Mr. Weldon G. Annable, at the age of 65. Mr. Annable was Assistant Steamships Passenger Traffic Manager in Montreal for the Canadian Pacific Steamships. He joined the company in 1901 as a junior clerk in the city passenger office at Ottawa, and went to Montreal in the same year to join the general passenger department. He entered the steamship services in 1909, and was made Assistant Steamship Passenger Traffic Manager in 1923.

Mr. R. E. Stork, Acting Commercial Superintendent of the Ceylon Government Railway, is retiring from the service, having reached the age of sixty. Latterly he was Divisional Transportation Superintendent of Anuradhapura, but about two years ago he was appointed to act as Commercial Superintendent of the railway in succession to Mr. L. T. Stott. Mr. Stork joined the railway clerical service when he was 20, and so counts forty years of service. He was a stationmaster prior to being promoted to the grade of Assistant Divisional Transportation Superintendent in 1932.

Mr. Gilbert Savil Szlumper who, as announced in our July 26 issue, has been appointed to succeed Mr. R. H. Hill as Railway Control Officer at the Ministry of Transport, was born in 1884, and was educated at King's College School, and the Engineering Faculty, King's College. He is the only son of the late Mr. A. W. Szlumper, formerly Chief Engineer of the Southern

Docks & Marine Manager, L.S.W.R. After the amalgamation of railways, he was appointed Docks & Marine Manager of the Southern Railway in June, 1923. He became Assistant General Manager on May 1, 1925, and retained the position of Docks & Marine Manager until 1927. On October 14, 1937, Mr. Szlumper assumed the office of General Manager in succession to Sir Herbert

Walker, holding this position until September 25, 1939, when he was appointed Director-General of Transportation & Movements, War Office. Mr. Szlumper was a Member of the present Railway Executive Committee from September 1 to 24, 1939. For many years he has been a keen Territorial soldier and, in recognition of this and his railway work, was made Railway Transport Officer in 1914, being senior R.T.O. of the Army; he was promoted to Major in 1916; to Lieutenant-Colonel in 1928; and to Colonel in October, 1937. On February 6, 1940, while D.G.T.M., he was granted acting rank of Major-General, but relinquished his military rank on July 31 on taking up his present appointment. He received the Territorial Decoration in 1921. Mr. Szlumper was elected a Director of Railway Air Services Limited upon its formation in 1934. He was also a Director of the East Kent Light Railways Company and of several bus companies associated with the Southern Railway. He was President of the Institute of Transport for 1938-1939.

We regret to record the recent death, at the age of 86, of Mr. W. F. J. Fitzpatrick, Chairman of Commissioners, Victorian Government Railways, from 1910 to 1915.

Sir Edward Crowe has been appointed a Director of the English Electric Co. Ltd.

Mr. R. H. W. Bruce, Assistant District Controller, Saltley, L.M.S.R., has been appointed District Controller, Lancaster, in place of Mr. J. Swarbrick, who has retired.

We regret to record the death in London on August 11 of Captain Christen Smith, Managing Director of the Norwegian shipping company Belships, of Victoria Street, London. Captain Smith, who was formerly an officer in the Norwegian Navy, was an expert in heavy lifts. Soon after the last war he ordered a special ship designed to carry railway carriages,



Mr. Gilbert S. Szlumper, C.B.E.

Appointed Railway Control Officer,
Ministry of Transport

Railway. Mr. Gilbert S. Szlumper joined the staff of the London & South Western Railway in 1901 and for some years worked in various sections of the Engineer's Department. In 1910 he was appointed Chief Assistant to the Central District Engineer, and three years later became Resident Engineer-in-Charge of trackwork, etc., of the L.S.W.R. electrification scheme, and also the Hampton Court flyover line. He was made Assistant to the General Manager in February, 1914, and acted as Secretary to the then secret Railway Executive Committee. During the war of 1914-19, his chief work was the secretaryship of the R.E.C. In 1919 he returned to the L.S.W.R. as Deputy Docks & Marine Manager at Southampton, and at the end of 1920 became

locomotives, and even lightships and tugs. His venture was so successful that he soon had a fleet of motorships all of which were built by Armstrong, Whitworth, of Newcastle. They all had the prefix "Bel" and became known the world over as the Belship fleet. Since 1921, nearly 200 shipments have been handled with complete success.

Mr. C. J. Gregory, Stationmaster at Stratford, L.N.E.R., has been appointed

in 1924. Four years later he took a similar position at March, and in 1931 went to Fenchurch Street. Mr. Gregory was appointed Stationmaster at Stratford in 1934, the position he now relinquishes to take up his new appointment at Liverpool Street.

Mr. Robert Dixon, who, as announced in our August 2 issue, has been appointed Dock Manager, Plymouth, Great Western Railway, has been for the past 12 years head of the Commer-

Mr. Fred E. Jones, who, as we announced last week, has been appointed Commercial Assistant to the Irish Traffic Manager, London Midland & Scottish Railway, is the son of the late Mr. F. E. Jones, one time Assistant Irish Traffic Manager. Mr. Jones was educated at Christ Church Grammar School, and joined the service of the L.N.W.R. in March, 1903. He spent some time at North Wall, Dublin, and was later transferred to Greenore for relief work on the Dundalk, Newry &



Mr. C. J. Gregory

Appointed Stationmaster, Liverpool Street station, L.N.E.R.



Mr. Robert Dixon

Appointed Dock Manager, Plymouth, Great Western Railway



Mr. Fred E. Jones

Appointed Commercial Assistant to the Irish Traffic Manager, L.M.S.R., Dublin

Stationmaster at Liverpool Street, in succession to Mr. H. C. R. Calver who, as announced in our issue of July 5, has retired. Mr. Gregory began his railway career in 1898 as a probationary clerk at Kings Lynn. After service at Lincolnshire and East Anglian stations, he became Stationmaster at Workso-

cial Department of the Chief Docks Manager's office, Cardiff. Mr. Dixon entered the service of the Alexandra (Newport & South Wales) Docks & Railway Company in November, 1906, as an apprentice clerk in the Engineer's Department, and was later transferred to the General Manager's Department.

Greenore Railway. After a time he returned to North Wall and was placed in charge of the Passenger and subsequently, the Claims Departments. Mr. Jones is a keen golfer and has been Honorary Secretary of the Railway & Steam Packet Society for nearly 20 years.

Engineering and Transport Meetings in Argentina

The 13th session of the Buenos Aires Association of the Institution of Civil Engineers was opened on May 16, when the Chairman, Mr. H. A. McGillycuddy, Chief Engineer, Central Uruguay Railway, delivered the inaugural address on "River Psychology and Some Adventures in River Training." During his tenure of office as Chief Engineer of the Córdoba Central Railway, Mr. McGillycuddy had occasion to make a close and intensive study of the phenomena of many of the large rivers in Northern Argentina, including the Rio Romano, Rio Dulce, and Rio Salado, in connection with important bridge-building schemes and other engineering projects, and the lecture was based on his personal experience of the technical problems involved in carrying out such works and the methods by which these were solved.

The inaugural meeting of the current

session of the Buenos Aires branch of the Institution of Electrical Engineers was held on May 17, when the Chairman, Mr. M. F. Ryan, General Manager, B.A.P.R., delivered an address on "Job Analysis." Mr. Ryan explained that job analysis meant the analysis of each individual item of work, its relation to other items, and the analysis of the work of particular individuals. The purpose, he said, was to discover whether particular operations were necessary in whole or in part, and whether they could be amalgamated or co-ordinated with any other activity, and if they were being carried out in the most efficient and economical way. Mr. Ryan stated that on the basis of reports upon job analysis on the Indian railways, it had been applied with great success on the B.A.P.R.

The opening meeting of the 1940 session of the Argentine and River Plate

Centre of the Institute of Transport was held on May 28 in Buenos Aires, when the inaugural address was delivered by the Chairman, Mr. T. C. S. Haslam, General Manager, Villalonga-American Express Company. He announced the programme for the coming session, during which three papers would be read treating of different aspects of transport. He also stated that, although it might be impracticable to offer members any visits of professional interest involving long journeys during the present session, the committee would endeavour to arrange for visits to places nearer at hand. He urged the younger members to enter for the graduate and associate membership examinations of the institute, the passing of which would open up the road to promotion. Mr. Haslam concluded with a short résumé of what had been done prior to the outbreak of the war regarding the co-ordination of transport.

Provident Mutual Life Assurance Association

"From Then Until Now" is the title of a short history of the Provident Mutual Life Assurance Association 1840-1940, which has been compiled by Mr. F. H. Sherriff, F.I.A., with a foreword by Mr. Owen H. Smith. Mr. Sherriff, in his clear and interesting account, shows how from very small beginnings the association has grown to its present state of prosperity. It originated as the Provident Clerks' Mutual Benefit Association & Benevolent Fund. The first notice of the association appeared in *The Morning Herald* of August 29, 1840, and the first preliminary meeting was held at the London Tavern, Bishopsgate Street, on October 5, 1840. In November of that year it was enrolled under the Friendly Societies Act. Its rules and prospectus, together with the table of rates were allowed and confirmed by Quarter Sessions at the Guildhall on April 15, 1841, thus legally authorising the association to begin business, although business had actually been solicited five months earlier.

The first proposer to become assured, by payment of his first premium, was a clerk who applied for a whole life policy for £100. Business then began to come in steadily. During the nine months ended December 31, 1841, 67 policies had been issued, assuring £14,350 in addition to six deferred annuities. The first death did not occur until April 17, 1845. In 1844 the management became vested in a board of management. By the early rules the largest sum upon one life was limited to £500, but in January, 1850, the maximum was increased to £2,000, at which figure it remained for many decades.

Group Life Assurance

In carrying out the general policy of the association, the management no doubt had in mind some idea of the principle of group life assurance, and its first staff scheme, suggested in 1846, was somewhat of this nature. It was some years before the idea was seriously exploited, when thrifty employees could have their premiums deducted weekly or monthly through the pay sheets. The first to offer these paysheet facilities to the association was the Post Office in 1859, and several of the leading railway companies took a similar step in 1860. Since then one railway company after another adopted the scheme. By the end of 1850, 2,666 policies had been issued for £520,115, and the funds amounted to £29,159.

Early progress was somewhat slow. The new business figures rose steadily during the first twenty years, after which they seem to have reached a plateau, which took no fewer than three decades to traverse. During the next twenty-eight years the association proceeded on an easy upward grade, but it was not until after the war of 1914-1919 that "the scenery became Alpine." During the past twelve years of its life, the association has issued nearly as many policies as it had done in all the

previous years, and since 1918 it has issued about four times as many policies as it did before that date.

As already stated, a staff scheme was arranged in 1859 with the Post Office. The authorities threw open the paysheets for premium deductions and periodically paid over to the association the amounts collected in this way. In the next year the Great Western, Midland, North Eastern, Great Eastern, and Great Northern Railway Companies, and the Railway Benevolent Institution, offered the same facilities. In course of time arrangements were made with nearly all the other railways, including the Cheshire Lines Committee (1885); Metropolitan District (1891); Metropolitan (1892); London, Tilbury & Southend (1896); London, Chatham & Dover (1896); Hull & Barnsley (1896); North London (1897); Severn & Wye (1898); Great Central (1899); London & North Western (1900); Metropolitan & Great Central Joint (1907); Lancashire & Yorkshire (1909); Great Northern (Ireland) (1912); and London Electric (1913). Similar arrangements were also made with cer-

tain banks, docks, wharves, gas companies, and many other commercial concerns; and in recent years there has been a big and successful drive with a multitude of road transport companies, some of which, however, have preferred to adopt the group life assurance or group pension plan. Over 90 per cent. of the members of the association pay their premiums through the paysheets.

Important absorptions made by the association include the Consols Insurance Association (1862) and the Citizen Assurance Corporation (1874). Not content with a well-established life office and a very prosperous benevolent fund, the board of the association conceived the idea of combining the transaction of guarantee business with that of life assurance. The Provident Clerks' & General Guarantee Association Limited was therefore established and registered under the Companies Act, 1862. In 1876 the Provident Clerks' & General Accident Insurance Co. Ltd. was formed.

Since 1845 the premises of the association have been in Moorgate Street, and, with the rapid expansion after the last war, the accommodation has been expanded to become 25-31, Moorgate, E.C.2.

London Transport Station Gardens Competitions

Competitors in the London Transport annual station gardens competitions were encouraged this year to combine vegetables with flowers wherever the plot of ground was suitable. Many attractive designs were achieved and a useful contribution was made to the nation's supply of fresh food.

Mr. W. Hagan, Ruislip station, won not only the first prize for the best garden on the Metropolitan Line, but also the special prize for the best station garden on the board's railways. Other prizes on the Metropolitan Line were awarded as follow: 2nd prizes, A. Mason and A. Maunder (Hammersmith), P. Gregory (Rayners Lane) and E. J. Elles (Kingsbury); 3rd prizes, C. F. Wise and C. Brett (Hammersmith), A. Moryan (Hammersmith), C. Youell (Ickenham), F. Cooke (Ruislip), and W. P. Crawley (Canons Park); 4th prizes, W. A. Goddard (Ladbroke Grove), B. G. Hales (Willesden Green), and T. H. Vidion (West Hampstead).

Mr. W. G. Bartlett, Turnham Green station, won the first prize for the best station garden on the District Line. Other prizes were awarded as follow: 2nd prize, A. Minell (South Kensington); 3rd prizes, J. A. Mills (Cromwell Curve), W. Harvey (Walham Green), and G. Guyet (Hounslow East); 4th prize, A. F. Horsman (Whitechapel).

Mr. A. Refell, Colindale station, won the first prize for the best station garden on the Northern Line. Other prizes were awarded as follow: 2nd prizes, F. Pryke (Golders Green), C. Purbrick (Colindale), J. Turvey (Colindale), and A. C. Stewart (Colindale); 3rd prizes, R. Beaverback (Colindale), P. Moore

(Burnt Oak), and H. E. Pond (Edgware). Colonel Forrester Clayton, J.P., a Member of the board, Mr. T. E. Thomas, General Manager (Operation), and other officers of the board were the judges.

SWISS COTTAGE STATION.—Since Bakerloo Line trains began to serve Swiss Cottage station, in November, 1939, most of the passengers who use the station travel by Bakerloo Line. Very few now use the Metropolitan Line platforms, and it has therefore been decided to close them to passengers from Sunday, August 18. The entrance to Swiss Cottage station from Belsize Road will remain open for Bakerloo Line passengers. The closing of the Metropolitan Line station at Swiss Cottage will enable all Metropolitan trains to run non-stop between Baker Street and Finchley Road stations.

S.R. AWARDS FOR STAFF SUGGESTIONS.—On Friday last, August 9, the annual presentation of awards for suggestions by the staff of the Southern Railway was made by Mr. John Elliot, Deputy General Manager, assisted by Mr. R. M. T. Richards, Traffic Manager. Altogether 17 prizes were given. The premier awards went to Mr. S. W. Smith, a guard of Strawberry Hill, for an idea to economise in electric train working, and Mr. J. H. Stamford, a ganger of Tonbridge, for savings in the use of ballast. During the year, more than a thousand suggestions for economy in the use of material, and saving in operating work, were put forward.

TRANSPORT SERVICES AND THE WAR—51

Making Britain anonymous—Transport of evacuated schoolchildren—Home Guard travelling expenses—Additional Protected Areas—Railway Charges Inquiry—Railway ships and evacuation—The European railway situation—Air transport

To prevent giving information that might be of value to the enemy, the L.N.E.R. has carried out, during the past few weeks, the task of removing or obliterating nearly 21,000 name signs. These include 15,500 name boards, seat name plates, and lamp labels at stations; 4,200 signal box name signs; 140 signs on goods depots and warehouses; and 990 street direction signs. Many small country stations have lost names that were once attractively outlined in flowers, box hedge, or stone, and which formed part of schemes of horticultural decoration in which many members of the staff take a pride.

Harrogate Shelter in Derelict Railway Tunnel

After having lain derelict for nearly 80 years, the old Brunswick railway tunnel at Harrogate has been equipped as a public air raid shelter. By an Act of 1845, the York & North Midland Railway Company secured powers to build a railway from Church Fenton to Harrogate, and two years later the company received authorisation to extend the line in tunnel to a terminus called Brunswick station, which was opened on July 20, 1848. The site of the tunnel was purchased from John Green Paley, under a Deed dated December 24, 1851, and therefore, some time after the railway was actually completed. In 1854 the York & North Midland Railway and the Leeds Northern Railway were amalgamated into the North Eastern Railway Company, and in 1859 the N.E.R. obtained an Act to link the two systems by a connecting railway through Harrogate upon which the new Harrogate station was built. The new station was opened on August 1, 1862, and the old Brunswick station was closed. The site of the station was subsequently sold to Messrs. Greensmith and others by Deed dated July 12, 1867, but the site of the old Brunswick tunnel was not disposed of for nearly 30 years more, when it was sold to the Trustees of the will of the late John Paley by Deed dated April 27, 1896.

Transport of Evacuated Schoolchildren

During the past two months some 300 special steam trains and 200 electric trains have been run by the British railways for the transport of more than 220,000 children under the Ministry of Health evacuation schemes. Every fifteen children were looked after by a teacher or an attendant. Many of the movements have been made at the weekends and at such times as interfere as little as possible with ordinary services, both for passengers and merchandise, and of the numerous special trains run for troops and munitions. A large proportion of the journeys involved intricate cross-country routes, avoiding large towns. In one instance railway ferry steamers formed connecting links with the trains. All these train journeys have been made during daylight, and the longest runs have been 200 miles. In the case of the Channel Islands the overall journeys amounted to over 600 miles. All the trans-

fers have been carried out without a single mishap of any kind. The evacuation of registered schoolchildren has so far embraced 60 towns and cities, including London.

Home Guard Travelling Expenses

Lord Croft, Under-Secretary, War Office, replying to a Question in Parliament last week, said it had been decided that members of the Home Guard travelling on duty journeys, which included journeys to and from rifle ranges, would do so at the public expense and instructions giving effect to that decision were about to be issued.

In answer to a point raised about the difficulty experienced by members of the Home Guard in getting to Bisley at weekends, Lord Croft said that Bisley was not served directly by the Southern Railway. It was on a private branch line, but there were frequent electric trains to Brookwood which had always been regarded as the junction for Bisley. Arrangements could be made for a service between Brookwood and Bisley by bus, and it might also be arranged by train if numbers justified the proposal.

Incidentally, the cost of changing the name of the Local Defence Volunteers to the Home Guard was estimated by the Secretary for War in Parliament as £3,500.

More Protected Areas

A new Order by the Home Secretary, known as the Aliens (Protected Areas) No. 8 Order, came into force yesterday (August 15) and extended the boundaries of certain existing Protected Areas. All Cornwall and Devon and most of Somerset are now Protected Areas, and existing areas in Buckinghamshire and Northamptonshire have been extended.



All Clear for the Guns ON THE LINES BEHIND THE LINES BRITISH RAILWAYS

Reproduction of a coloured poster issued by the British railways. The locomotive on the left, which incorporates features of engines of each of the railways, is coloured in bright green and is symbolic of the latest types of passenger express engine. That on the right is black and represents the latest types of freight locomotives. More detailed reference to this poster was made at page 114 of our August 2 issue

Earlier references to Protected Areas were made in our issues of April 5 (page 521), June 14 (page 844), and June 21 (page 874). An alien may not enter or remain in any of these areas without the permission in writing of the Chief Constable or of the Home Secretary "unless he is passing through the area in the course either of a continuous journey by train from or to a place outside the area or of a continuous journey from or to a place outside the United Kingdom."

Railway Charges Inquiry

A proposal for a further increase in railway charges on the main-line railways and the London Passenger Transport Board is to be the subject of a public inquiry on August 26 in the Brooklyn Hall, Bush House, Aldwych, W.C.2, at 10.30 a.m. Notice of this inquiry is given in *The London Gazette* of August 13, 1940, stating that the Charges (Railway Control) Consultative Committee has been requested by the Minister of Transport to advise him as to the best method of further increasing the charges of the railway companies (other than those relating to their hotel, dock, harbour, canal, and steamship undertakings) and the charges of the London Passenger Transport Board, from October 1, 1940, so as to yield, by September 30, 1941, a sum which, together with the yield from the increases in charges already made or authorised (estimated by the Railway Executive Committee to yield about £29,500,000) will amount to about £44,500,000. The Press Association understands that the application now being put forward is for an increase equivalent to about 6.8 per cent. on the present rates and fares. This, with the 10 per cent. increase already granted, would make a total increase of 17½ per cent. on the pre-war fares. The new application is actually for an increase of 7½ per cent. on the basic pre-war rate, which is equivalent to about 6.8 per cent. on the existing rate.

Railway Ships and Evacuation

Now that the passage of time has made it permissible to give further details of the part played by railway ships in the epic Dunkerque evacuation, a more adequate idea may be gained of the services rendered by units of the G.W.R. and S.R. Of the peacetime G.W.R. fleet, the *St. David* and the *St. Andrew*, normally on the Fishguard-Rosslare service, and the *St. Julien* from the Channel Islands service, were used as hospital ships. The *St. Helier*, formerly well known on the Channel Islands service, and the *Roebuck*, one of the company's cargo boats, were employed as transports. Moreover, in addition to her complement of troops, the *Roebuck* brought back a number of wounded. Although the members of the crew volunteered to continue the work under conditions particularly perilous to themselves, the Admiralty decided not to allow this vessel to make any further trips to Dunkerque. The rescue of wounded from Dunkerque was a particularly hazardous undertaking. The port had been severely damaged, and the harbour was strewn with wrecks, so that entrance was made very difficult. During the several crossings they made to and from the French coast, the three vessels which, as hospital ships, had no defensive equipment, were subjected to aerial bombardment and machine-gun fire. They were attacked again and again by the enemy, although conspicuously marked by the Red Cross, and painted white, as are all hospital ships. Conditions during the latter part of the withdrawal were extremely severe, and when the hospital steamers arrived at Dunkerque the crew had not only to make fast wherever possible, but went ashore and assisted the ship's R.A.M.C. personnel in collecting what wounded men they could.

The *St. Helier* brought back large numbers of troops from the French ports, including many hundreds of British and Allied troops from the beaches of Dunkerque, and, although other ships went to Dunkerque after the last trip of the *St. Helier* and brought over some French soldiers, it fell to the lot of this G.W.R. vessel to bring back the final units of the B.E.F. In all she made eight trips to and from northern French ports in connection with the evacuation. Even *The Mew*, the ferry boat which has for so many years plied between Dartmouth and Kingswear, was "on the list" for the work to be done. When the vessel came under requisition by the Admiralty, the master and crew volunteered to do whatever was required of them, and the boat proceeded to Dover, in

itself a feat of seamanship for a ferry boat. On her arrival, it was found that the evacuation was practically complete, and the Naval authorities decided not to take the risk of sending her across the open Channel. Although the G.W.R. ships sustained some damage, none was lost.

Of the Southern Railway fleet, 18 vessels were engaged in the evacuation, either in hospital garb or in the dirty grey livery so much in evidence at British ports nowadays. One of the S.R. ships had the distinction of bringing back more troops on a single occasion than any other vessel when the *Whippingham*—a paddle steamer—safely conveyed no fewer than 2,700. Three of the company's ships were lost with colours flying during these operations, including the *Paris*. It was not to be expected that the other steamers of the company would escape some kind of damage, and they all suffered to some extent, but the *Isle of Guernsey*, the *Worthing*, the *Canterbury*, and the *Biarritz*, were the vessels most severely affected.

Two other units of the Southern Railway Company's fleet which, although not engaged in the Dunkerque operations, have been lost in the country's service, are the *Maid of Kent* and the *Brighton*. They were both hospital carriers and were sunk by enemy air action at Dieppe during the week ended May 26.

The last persons to leave the Channel Islands before the German bombing and subsequent occupation were brought away by the Southern Railway vessel *Isle of Sark*. The master of this vessel delayed his departure from Guernsey as long as he could to enable as many passengers as possible to embark, although a severe aerial bombardment was in progress. He succeeded in getting a large number of persons aboard and safely away. The cargo steamer *Ringwood*, which was also caught in this raid, managed to leave for home.

Enemy Damage to British Railways

In connection with the widespread and intensive German aerial attacks on Great Britain during the past few days, the first official intimations have been given of damage to railway property. An Air Ministry and Ministry of Home Security Communique dated August 11, referring to enemy air activity during the previous night, stated that bombs dropped in a town in the Bristol Channel area had slightly damaged a railway embankment nearby. The air raid on Portsmouth on August 12 resulted in official announcement that the raiders had bombed a railway station.

Victorian Railways and the War

The 2nd Railway Construction Company is to proceed overseas with the Australian Imperial Force. Its strength is 305 of all ranks, of whom 103 are Victorian railwaymen. Altogether 410 men of the Victorian Government Railways had joined various units in the Australian fighting forces between the outbreak of war and June last.

New Zealand Railways and the War Effort

Mr. E. Casey, General Manager of the New Zealand Government Railways, recently issued the following message to the staff, which was published in the June 1 issue of *The New Zealand Railways Magazine* :—

"Up to the time of writing this message, over a thousand members of the Railway Department have joined the military forces for service overseas. Recent developments emphasise the gravity of the international situation and impress upon all citizens the necessity for further efforts, whether with the military forces or in serving their country on the home front. As one who has had long association with the personnel of all branches of the Railway Department, and who holds a deep and abiding pride in his association with the Service as a whole, I make a confident appeal to all members to give a maximum of effort and efficiency in the nation's cause at the present time.

"I make a further appeal on behalf of New Zealand's soldiers who are fighting our battle overseas. It is our duty to help in providing for the welfare and comfort of our comrades, particularly the sick and wounded. With this object in view, I suggest the establishment of a Railway Patriotic Fund to assist the National and Provincial funds already approved by the Government. A similar fund has already been successfully established in other Government Services and I feel that railwaymen whose patriotism, loyalty, and charitable instincts are second to those of no other section of the community, will not wish to lag behind in such a worthy and humanitarian movement. Whilst realising that the

question of making small and regular contributions to such a fund is a matter for the conscience and circumstances of the individual member, I propose calling a meeting of officials of the four service organisations to discuss details of the suggested fund in order that members of the Service generally may be assured that the moneys contributed by them will be controlled by their own representatives. The decisions and recommendations of this meeting will be forwarded to all members at an early date. Knowing the spirit of the men and women employed in the Railway Department I feel confident of that unanimous support which will ensure the Railway Patriotic Fund being worthy of the railway service."

Finland

The Soviet-Finnish Trade Treaty of July 28 has now been ratified, and an agreement has been prepared in Moscow regarding transit railway traffic over Finnish territory between Russia and Hanko, the naval base which Finland ceded to Russia after the Russian invasion of Finland.

The Railway Situation in Switzerland

The winter railway timetables which come into force on October 6 will include drastic curtailments of steam-operated services, due to the unsatisfactory state of coal imports, according to an official statement issued in Berne last week. Traffic over the electrified lines will not be restricted, and thus the inconvenience should not be very severe, as the country has so high a proportion of electrified mileage.

Transit Traffic Through France

Regular railway communication between Italy and France is reported to have been established on Saturday last, August 10. Under the terms of the armistices with Germany and Italy, unoccupied France was required to assure freedom of traffic across her territory. There has been no direct land communication so far between Germany and Spain, though there is now a direct air service, as we recorded at page 157 last week.

German Control of Luxembourg

German police made a "triumphal entry" into the capital of the Duchy of Luxembourg on August 6, according to a Berlin announcement. It was added that thousands of persons listened to a speech by the chief of the German administration explaining to them "the German character of the Duchy." Reference to the Germanisation of the railways of Luxembourg, both during and before the last war, was made at page 19 of our July 5 issue.

The Official German News Agency announced on August 13 that the constitution of Luxembourg had become null and void, and that in future official documents would not be permitted to bear the expressions Grand Duchy or the Country of Luxembourg. Previously, on August 9, the German occupying authorities had decreed that German should be the only official language of Luxembourg. The French schools have been closed, and streets nameplates are to appear in German only.

Germany

The first of 30 special trains which are to take 20,000 Italian industrial workers to Germany, have passed through the Brenner, according to Berlin reports of August 7, quoted by Reuters.

The Air Ministry let it be known a few days ago that the R.A.F. has so far bombed 214 different towns in Germany, many of them several times. Hamm has been visited on 28 occasions, and Gelsenkirchen 15 times.

Transport in Poland

The Governor General for German-occupied Poland stated on the German radio last month that the part of Przemyśl, on the western bank of the River San, is to be a free county town to be named Deutsch-Przemyśl.

It was announced by the Official German News Agency on April 12 that the name of Lodz, the Polish textile city, had been changed to Litzmannstadt, after the General who helped to conquer Russian Poland in the war of 1914-19. General Litzmann was an early member of the National-Socialist (Nazi) Party.

An Order is stated to have been issued at the beginning of March by the German Governor of Poland prohibiting Jews from travelling in trains and other public vehicles unless they have secured a "certificate of absolute necessity."

Such scraps of news as the foregoing are all that are reaching this country, other than further suggestions of frontier difficulties between German and Soviet Russia such as we recorded at page 155 of our August 9 issue. A message dated August 6 from Stockholm said that Germany had obtained 25,000 tons of oil from Russia during the previous four weeks, and that it was conveyed by canal from the Caucasus to Leningrad, and thence by rail to Germany via Riga. This would seem to support the Balkan reports that very little transit traffic between Germany and Russia is passing via Poland. Another reason for the paucity of news from Poland is probably that great secrecy is being preserved about increased industrial activity in the Silesian area now that western Germany is receiving constant attention from the R.A.F.

A Russo-German Canal Link

The Dneiper-Bug Canal, linking the Black Sea and the Baltic, is now completed and open to navigation, according to Reuters. The canal forms part of the 900-mile waterway between Danzig and the Black Sea. At the end of April it was announced that ships and barges would leave Pinsk for Brest-Litovsk on a trial trip through the canal.

New Transport Construction Company for Roumania

An Italo-Roumanian company for the construction of railways and roads has been founded in Roumania, stated the Official German News Agency on August 7, according to Reuters Trade Service.

Transport in Holland and Belgium

Transport difficulties are continuing to hinder German activities in the Low Countries. Through railway traffic is still interrupted at numerous points, and great efforts are being made to breach the gaps. Temporary timber structures have now replaced the destroyed bridges across most of the smaller streams and canals in Belgium and in Holland. Axle loads are severely restricted and speed is reduced to walking pace across these bridges. Transport difficulties have hit the South Limburg coal mining industry severely. Shortage of rolling stock and damage to railway lines affect rail transport, and severely damaged loading gear at the river port at Born on the Meuse seriously hinders water transport of coal.

Syria

Syria has now closed her frontiers to British and Allied subjects of military age, according to a message from Ankara dated August 10. Hitherto, despite the French capitulation, British subjects had still been able to pass through Syria in transit. Now, however, on the orders of the Vichy Government, the French Consulates have been instructed to refuse visas to all Allied combatant subjects of military age. The authorities in Syria are understood to have been instructed also to refuse an exit permit to any such persons already in Syria. This decision means the shutting of Syria as a link between Turkey and Palestine, and also the exclusion of British subjects from the Taurus Express between Istanbul and Baghdad, as this passes twice through parts of Syria.

Leave Travel for Canadian Forces

Members of the Canadian armed forces on leave in Canada are granted return tickets at single fare, but the Government has no authority to establish free or reduced railway rates, stated the Defence Minister, Mr. J. L. Ralston, in the Dominion House of Commons recently. Mr. G. K. Fraser (Lib., Northumberland) had asked if the Government would consider granting free railway travel.

Air Transport

The regular weekly Japanese air service between Tokio and Bangkok (Thailand) which was begun on June 10 (see our June 28 issue, page 905), at first flew the Canton-Bangkok section non-stop and over the sea to avoid French territory; it now runs via Hanoi.

During July it was reported that a new Soviet-Chinese company named Hamiata had been formed by the Soviet Aeroflot and the Ministry of Communications of the Chinese Republic. It is said to be maintaining a weekly service between Alma-Ata, Urumchi, and Hami, a distance of about 800 miles.

The Chungking-Moscow air line is now stated to have been resumed on the basis of four flights each way every month.

Questions in Parliament

Disused Railway Tracks

Mr. Ellis Smith (Stoke—Lab.), on August 7, asked if the Minister of Supply was aware that there were millions of tons of steel rails unused in the country; and would he take steps to secure this steel for the Ministry, and, if required, introduce a short Bill or regulation for the purpose of preserving running rights where they were insisted upon, or take other appropriate action to secure the steel at once.

Mr. Herbert Morrison (Minister of Supply): I assume my hon. friend is referring to disused railway tracks. These are being taken up for scrap wherever possible, though it may be desirable in certain cases to maintain such tracks even if they are not at present being used. I am in touch with the Minister of Transport on this subject and with the Secretary for Mines on the question of utilising old tracks in mines and quarries.

Protection of Passengers

Mr. J. Parker (Romford—Labour), on August 7, asked whether the Minister of Transport, in view of the danger to railway passengers from flying glass during air-raids, would issue an instruction to passengers as to the use of cushions in compartments to protect themselves against glass splinters.

Sir John Reith (Minister of Transport) wrote in reply: Present instructions to passengers in trains during an air raid are to pull down the blinds, and, if possible, to lie on the floor. In a large number of compartments the cushions are fixtures.

Staff and Labour Matters

Industrial Registration

The Minister of Labour & National Service has issued an order requiring all men in certain skilled occupations—mainly engineering—to register at an employment exchange during the five days August 19 to 23. Three categories of men are concerned, namely:—

Skilled men in engineering and certain allied industries who are not fully employed on Government work;

Men with similar skill employed in engineering maintenance and repair work in other industries;

Men who, within the last 12 years, have done skilled engineering work for at least 12 months, and have since passed into other occupations.

Men who know they are fully employed on Government work, either directly or on sub-contracts, are not required to register, and, if they are in doubt and ask their employers, the employers must tell them whether the work is or is not Government work. There are excepted undertakings, and men employed in them should not register. The excepted undertakings are those engaged in shipbuilding and ship-repairing, iron and steel manufacture or non-ferrous metal manu-

facture, the main railway companies, and the London Passenger Transport Board.

The order requires every male person aged 21 and upwards in the named occupations, unless he is wholly engaged on Government work, or is employed in an undertaking of an excepted class, to register on one of the five days at an employment exchange or other local office of the Ministry and to give particulars of his place of employment, occupation, type of work, age, and experience. The exchanges will be kept open till 8.30 p.m. on those days and men must attend personally unless working overtime, in which case they may send for the required forms and fill them up at home.

The "named occupations" are:—

Brass, bronze, aluminium, and other non-ferrous metals, finisher, fitter; copper-smith; core maker; die caster; draughtsman (engineering, jig or tool); electrician, including wireman; fitter, assembler, erector, marker-out (engineering and kindred trades, including electrical).

Forgeman, including power hammer smith, forge hammerman, forge pressman, hot stamper, hot drop stamper, drop hammer smith, drop forger; gunsmith, inspector, tester, viewer, examiner (engineering and kindred trades, including electrical).

Instrument maker or assembler—all kinds, including scientific, optical, surgical, dental, electrical, wireless, watch and clock, telegraph, telephone; leadburner (chemical plumber); lens worker, prism worker; machinist, including driller (boiler, constructional).

Metal annealer, hardener, temperer; metal machinist, including turret lathe operator, capstan lathe operator, miller, borer, grinder, planer, shaper, slotter, driller; millwright, maintenance man (metal); moulder (iron, steel, brass, or other non-ferrous metals); power press operator (metal); sheet iron worker, sheet metal worker, including tinsmith.

Toolsmith; toolmaker, press toolmaker, die sinker (cutter), jig or gauge maker; toolsetter (machine or press tools); turner (metal); welder (gas or electric).

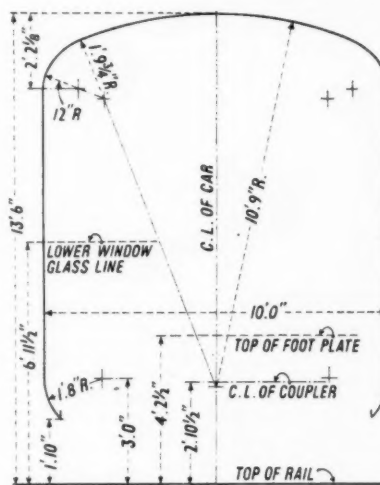
Railcar Collision and Fire in the U.S.A.

The cause of the collision on the Pennsylvania Railroad on July 31 at Cuyahoga Falls, near Cleveland, Ohio, between a petrol-electric railcar and a steam goods train, is attributed to the negligence of the railcar driver. Mr. E. W. Smith, Vice-President, Central Region, of the Pennsylvania, is reported to have said that the crew of the railcar failed to take a siding, as ordered, to await the passing of the 74-car double-headed freight train. Not only so, but in continuing on the main single track, they failed to obtain permission from the block operator. There were 46 persons in the railcar. The driver and two other members of the crew, seeing that the collision was inevitable, jumped, saving their lives. The other 43, all passengers, were killed. The driver of the freight train, when he saw the rail-

car approaching him at about 40 m.p.h., applied his brakes, but at the instant of impact his train was travelling at about 35 m.p.h. The petrol tank of the railcar exploded, spraying the wreckage and the victims with flames.

Uniform Passenger Cars in the U.S.A.

The advent of streamlined passenger trains, of which the number has grown rapidly in the last five years, has prompted the Association of American Railroads, with the object of improving the appearance of trains when cars of various railroads and Pullman equipment are intermingled, to consider the



Cross-section of proposed standard contour for new U.S.A. passenger vehicles

possibility of a standard contour for new passenger vehicles. The sub-committee which was appointed by the A.A.R. for this purpose has developed such a standard, which is to be submitted to letter ballot, and if approved will be officially adopted. The proposed section is shown in the accompanying cross-section.

NEW SOUTH WALES GOVERNMENT RAILWAYS.—The report of the New South Wales Government Railways for the quarter ended March 31, 1940, shows that the mileage open during that period was 6,120, against 6,113½ in the corresponding quarter of 1939. Revenue amounted to £5,144,518, an increase of £573,146, and the expenditure of £3,525,542 was only £125,839 higher, reducing the operating ratio from 74.37 per cent. to 68.53 per cent. Coaching receipts increased from £1,987,487 to £2,200,248 and merchandise traffic receipts from £2,358,386 to £2,685,815. Net earnings per train-mile improved from 3s. 2d. to 4s. 2d.

NOTES AND NEWS

Railway Accident in Burma.—An express to Mandalay was derailed about 120 miles from Rangoon on August 12, apparently as the result of the track having been tampered with. It is reported that 4 persons were killed and many injured.

Trent Navigation Order.—Under the Special Enactments (Extension of Time) Act 1940, the Minister of Transport has made an Order (S.R. & O. 1940, No. 1322), modifying certain provisions as to time laid down in the Trent Navigation Act 1932.

L.P.T.B. Financial Year.—The Minister of Transport has issued the necessary Order changing the end of the financial year of the London Passenger Transport Board from June 30 to December 31. This is required in order to simplify the pooling agreement and unified operation with the main-line railway companies under the Government control plan. The Order also, in the financial year to June 30, 1940, extends from four to six months after the completion of the year the period within which the accounts have to be prepared and that within which interest on the "C" stock is payable. The board is also empowered to pay interim payment of interest for the extended period.

Anglo-Spanish Construction.—At the fifteenth annual general meeting of the Anglo-Spanish Construction Co. Ltd., held on July 31, the Chairman, Mr. Robert Walker, stated that since the balance-sheet date the Spanish Government had arranged to settle a debt due to the company through the clearing set up by the Trade & Payments Agreement, and that some £43,000 had been received. This had made it possible to meet outstanding debenture liabilities equivalent to 5 per cent. of the original nominal amount of the debentures outstanding, making the debentures 70 per cent. repaid. Nothing had been received during the year by the Santander-Mediterranean Railway Company from the Spanish Government in respect of the long outstanding debts for construction work, taxes

repayable, and accrued interest, totalling some pesetas 74,500,000. The one bright feature was that the accounts of the railway showed an excess of revenue over expenditure.

Powell Duffryn Associated Collieries Limited.—At the annual meeting on July 17 Mr. Edmund L. Hann, the Chairman, said that the installation of the Phurnacite plant for the production of carbonised fuel was begun during the summer of last year, and work had been proceeding continuously. The plant should have begun production in the early autumn of this year, but difficulties in obtaining materials would delay its completion for many months.

Argentine Railway Earnings.—The gross earnings of the Argentine railways for the first nine months (July-March) of the financial year 1939-40 amounted to 372,228,000 pesos, a small increase of only 71,000 pesos over the figure for the corresponding period of the previous financial year. Of the total, passenger receipts accounted for 75,291,000 pesos, or 120,000 pesos more, and goods receipts for 258,176,000 pesos, or 2,293,000 pesos (0.9 per cent.) more, and these increases were counterbalanced by a fall in sundry receipts of 2,342,000 pesos, or 5.7 per cent. Passengers numbered 122,640,000, or 119,000 more, and goods traffic, with 32,030,000 tons, showed an increase of 274,000 tons, or 0.9 per cent.

Buenos Aires Central Debentures.—A scheme of arrangement proposed by the directors of the Buenos Aires Central Railway Limited has been submitted to meetings convened at Winchester House, Old Broad Street, E.C., of holders of the company's 5 per cent. second mortgage debentures and 4½ per cent. first mortgage debentures. Under existing schemes interest on the £1,000,000 of 4½ per cent. first debentures was postponed to April 1, 1940, and interest and sinking fund on the £874,800 of 5 per cent. second mortgage debentures to May 10, 1940, have been cancelled. It is now proposed, *inter alia*, to cancel all interest on the 4½ per cent. debentures

to December 31, 1939, and to extend their maturity date from 1950 to 1960, and to convert the 5 per cent. second mortgage debentures into 5 per cent. non-cumulative debenture stock 1960. The scheme has been approved.

Institute of Transport Examinations.—The next examinations for graduateship and associate membership will be held on May 5, 6, and 7, 1941, in London and at provincial and overseas centres. The closing date for receipt of applications to sit for the examinations is March 31, 1941.

British and Irish Railway Stocks and Shares

Stocks	Highest 1939	Lowest 1939	Prices	
			Aug. 13, 1940	Rise/ Fall
G.W.R.				
Cons. Ord.	38	21½	28	—½
5% Con. Pref.	92	71	78	—1
5% Red. Pref. (1950) ..	98	83	92½	—
4% Deb.	103	91	102	—
4½% Deb.	105½	93½	103½	—
4½% Deb.	110	99	108½	—
5% Deb.	121	109½	112½	—
2½% Deb.	63½	54	62	—
5% Rt. Charge	117	104	109½	—
5% Cons. Guar.	111	96½	105½	—
L.M.S.R.				
Ord.	17	9½	11½	—
4% Pref. (1923)	46½	20	31½	—2½
4% Pref.	63½	37½	47	—1
5% Red. Pref. (1955) ..	83	58½	72½	—
4% Deb.	98½	85	92	—
5% Red. Deb. (1952) ..	109	101½	106	—
4% Guar.	87½	73	79	—
L.N.E.R.				
5% Pref. Ord.	5½	3½	2½	—
Def. Ord.	3½	1½	1½	—
4% First Pref.	38½	19	30½	—1½
4% Second Pref.	15	7½	9½	—½
5% Red. Pref. (1955) ..	55	38	50	—
4% First Guar.	78½	60	67½	—
4% Second Guar.	69½	47	53	—
3% Deb.	71½	57	61	—1
4% Deb.	93	76	81	—1
5% Red. Deb. (1947) ..	106½	98	103	—
4% Sinking Fund Red. Deb.	104½	96	99½	—
SOUTHERN				
Pref. Ord.	78	46½	46	—1
Def. Ord.	19½	7	9½	—½
5% Pref.	100	76	77	—1
5% Red. Pref. (1964) ..	102½	94	87½	—
5% Guar. Pref.	116½	103	105½	—
5% Red. Guar. Pref. (1957) ..	112½	102½	103½	—
4% Deb.	103	91½	99	—
5% Deb.	118½	109½	112½	—
4% Red. Deb. (1962-67) ..	106	98	101½	—
4% Red. Deb. (1970-80) ..	102	96	100½	—
FORTH BRIDGE				
4% Deb.	98½	81	87½	—
4% Guar.	95	80	85½	—
L.P.T.B.				
4½% "A"	115	103	107	—
5% "A"	123	106½	113	—
4½% "T.F.A."	105	100½	102	—
5% "B"	117½	102	104½	—
"C"	84	63½	28	—2
MERSEY				
Ord.	24½	17½	20½	—
4% Perp. Deb.	93½	88½	89	—
3% Perp. Deb.	77	65½	59½	—
3% Perp. Pref.	55	49½	54½	—
IRELAND				
BELFAST & C.D.				
Ord.	6	3	4	—
G. NORTHERN				
Ord.	6	2½	4	—
G. SOUTHERN				
Ord.	13½	8	11	—
Pref.	26	10	22½	—
Guar.	40½	22	29½	—
Deb.	57	45½	52½	—

Irish Traffic Returns

IRELAND		Totals for 31st Week			Totals to Date			
		1940	1939	Inc. or Dec.	1940	1939	Inc. or Dec.	
Belfast & C.D. (80 miles)	pass.	£ 5,641	£ 4,189	+	£ 96,617	£ 79,264	+	£ 17,353
	goods	731	450	+	16,554	13,537	+	3,015
	total	6,372	4,639	+	113,171	92,803	+	20,368
Great Northern (543 miles)	pass.	17,350	18,150	—	355,050	332,950	+	23,100
	goods	14,550	10,200	+	378,700	312,500	+	66,200
	total	31,900	28,350	+	734,750	645,450	+	89,300
Great Southern (2,076 miles)	pass.	49,750	59,083	—	1,046,880	1,081,644	—	34,764
	goods	52,330	40,214	+	1,401,131	1,255,850	+	145,281
	total	102,080	99,297	+	2,448,011	2,337,494	+	110,517
L.M.S.R. (N.C.C.) (247 miles)	pass.	9,260	9,080	+	169,650	143,800	+	25,850
	goods	4,130	2,780	+	112,100	90,080	+	22,020
	total	13,390	11,860	+	281,750	233,880	+	47,870

OFFICIAL NOTICES

OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is noon on Wednesday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

LARGE pipe organ worked by rollers with weight, tunes on cylinders. This belonged to George Stephenson. Further particulars:—

LEEK.

Little Ampers Wick,
Weeley Heath,
Clacton-on-Sea, Essex.

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THE DIRECTORY PUBLISHING CO., LTD.

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RAILWAY AND OTHER REPORTS

Canadian Pacific Railway Company.—Interim dividend on preference stock for 1940 is 2 per cent. against nil.

Rhodesian Railways Trust Limited.—Dividend for year to March 31, is 6 per cent. less tax, against 5 per cent. tax free.

Benguela Railway Company.—Gross receipts for first half of 1940 were £171,749 (£164,372), net £69,783 (£63,013).

Leopoldina Terminal Co. Ltd.—The report for 1939 shows that after £26,947 for taxation (£25,554 is for tax on amounts receivable at end of moratorium) there was a loss of £31,260. Adding debit balance of £19,286 from 1938 leaves a debit balance of £50,546 carried forward. The moratorium for payment by Leopoldina Railway Co. Ltd. of guaranteed interest on Terminal Company's debentures has been extended to January 1, 1941.

Dorada Railway Co. Ltd.—Gross receipts for 1939 were £164,687, a decrease of £24,111. Passenger revenue (£12,976) was £9,314 less, and goods traffic receipts were £13,658 down, at £147,890. These reductions were due mainly to competition caused by the opening of a road in 1938 and another in 1939. Working expenses at £123,709 were down by £952. Balance of net revenue after providing for exchange differences (£15,563), debenture interest, N.D.C., etc., was £35,627. The dividend is again 4 per cent., less tax, leaving £11,454 to be carried forward, against £12,463 brought in. The working profit of the ropeway branch was £2,889, against £8,900.

Brazilian Traction Light & Power Co. Ltd.—The directors report gross revenue from operating companies for the year 1939 of \$37,513,740, compared with \$38,179,433 for 1938. Operating companies' charges were \$183,932 lower, at \$27,846,443, leaving \$9,667,297 to the parent company, or \$481,761 less. Adding miscellaneous income, the gross revenue was \$9,777,950, or \$538,255 less. Net revenue was \$503,573 lower, at \$9,166,108. Deducting the preference dividend left \$9,143,577, or \$1·30 an ordinary share, compared with \$1·37½ a share for 1938. Owing to the Brazilian exchange situation no dividend was paid for 1939, against 50 c. a share for 1938. After transferring \$25,000,000 to general reserve the earned surplus at December 31, 1939, totalled \$25,006,435.

Mexican Light & Power Co. Ltd.—Net loss for 1939 was \$1,365,350, against \$1,579,570 for 1938. Total debit balance is \$4,937,947.

Aldershot & District Traction Co. Ltd.—Total revenue to May 31, 1940, was £457,527, an increase of £112,241. Fuel, operating and other expenses were £15,539 more at £216,251, and road duties, rates, and taxes were up £87,701 at £146,007. After depreciation (£40,000 against £47,000), fees, and staff pensions, net profit is £51,742 or £15,709 more. Dividend at 10 per cent. is up 2 per cent. Allocation to reserve is doubled at £20,000, and the carry forward at £33,231 is £6,712 more than the amount brought in.

Seaboard Air Line Railway Company.—Railway operating revenues in 1939 amounted to \$44,163,419, an increase of \$4,153,676 in comparison with 1938. Operating expenses advanced by \$2,309,640 to \$36,493,167, and net railway operating income was \$2,144,884 higher at \$3,594,370. Gross income amounted to \$3,931,713, or \$2,166,990 more than in 1938, but fixed interest and other charges of \$9,488,269 had to be met, leaving a net deficit of \$5,556,555 which was \$2,033,606 lower than that for 1938.

Pere Marquette Railway Company.—Operating 2,115 miles of road this company secured in 1939 railway operating revenues of \$30,232,638, or \$4,788,036 more than in 1938. Total operating expenses advanced by \$1,991,423 to \$23,478,759, but the operating ratio was reduced from 84·45 per cent. to 77·66 per cent. Net railway operating income rose from \$853,602 to \$3,352,085, and total income from \$1,167,599 to \$3,712,648. After providing for rentals and interest and other charges there was a net income of \$328,156 in 1939, against a net deficit of \$2,259,803 in 1938.

Western Pacific Railroad Company.—Operating 1,208 route-miles this company secured in 1939 operating revenues of \$16,689,989, compared with \$14,584,679 in 1938. In the operating expenses of \$12,998,764 there was a saving of \$543,430, so that the operating ratio was reduced from 92·86 per cent. to 77·88 per cent. The net income of \$1,674,489 from transportation operations compares with a deficit of \$932,450 in 1938, and the total income of \$1,965,466 with a deficit of \$599,652. The amount available for interest in

1939 was \$1,697,307, but total interest deductions were \$3,664,945, resulting in a net deficit of \$1,967,638. This compares with a net deficit of \$4,450,489 in 1938.

La Guaira & Caracas Railway Co. Ltd.—Gross receipts for 1939 were £58,937, against £48,830 in 1938, and working expenses were £41,089, a reduction of £123. Total net revenue, including £16,298 exchange profit on remittances, was £34,460, and the balance for the year, after debenture interest, etc., was £6,098, reducing the debit balance forward to £86,562. The following payments on account of arrears of interest on the 5 per cent. debenture stock have been made. On September 1, 1939, 1½ per cent., balance of interest due March 1, 1934, plus interest to August 31, 1939; on April 1, 1940, 2½ per cent., interest due September 1, 1934, plus interest to August 31, 1939.

Tilling-Stevens Limited.—Trading balance for the 15 months to March 31 after provision for taxation, was £96,133 (£58,212 for 1938). Total profit was at rate of £76,980 a year, against £58,265. Net profit is £40,418 (£33,602). Dividend is 10 per cent. against 7½ per cent. and the balance forward is £35,072 (£16,910).

Contracts and Tenders

The Jaipur State Railway has placed a contract with W. G. Bagnall Limited for 4 " 0 " class locomotive boilers.

The Hunslet Engine Co. Ltd. has secured an order for duplicate parts for locomotives from the Mysore State Railway.

The Peruvian Corporation Limited has placed an order with Alexander Tough & Son of Greenock for 600 lb. of manilla rope.

The Portuguese Railways have taken delivery from the Edward G. Budd Manufacturing Company of 28 stainless steel passenger coaches, the first such coaches to have been built in the U.S.A. for export. The shipments were made from Philadelphia under strict secrecy, and the cars have now all safely arrived at Lisbon. They are intended for service between Lisbon, Oporto and Irun. The cars were ordered for the Companhia dos Caminhos de Ferro Portugueses, and financed through the Export-Import Bank with the assistance of the Bank of Portugal.

Railway Stock Market

Despite intensification of the war and the continued threat of invasion, firm conditions have been maintained in the stock markets, although there was further contraction in the already very small volume of business. Owing to inactive markets and the absence of selling, many securities are now in short supply, and consequently prices would probably respond strongly on only moderate improvement in demand. Nevertheless, it seems doubtful if general conditions on the Stock Exchange will show any important change, pending very encouraging developments in the war situation. On balance home railway securities have made slightly lower prices, despite general realisation of the very generous yields, and the prevailing view that the question of air-raid damage is well covered by the financial arrangements with the Government. On Wednesday, the tendency became firmer following the news that the main-line companies are seeking additional adjustments in rates and fares to meet constantly rising costs resulting from the war. There was, however, very little improvement in demand, and apart from stocks of the junior class, various prior charges also have slightly lower quotations than a week ago. In fact, as mentioned here on various occasions, home

railway stocks appear to be considerably undervalued in relation to many other groups of securities. Attention has been drawn in the market to the view that L.N.E.R. 4 per cent. first preference would appear to be at an unduly low level, if comparison be made with Canadian Pacific Railway 4 per cent. preference stock.

On balance for the week L.M.S.R. ordinary stock was unchanged at 11½, but the senior preference went back a point to 47½, while the 1923 preference was 31½, compared with 34 a week ago. Moreover, L.M.S.R. guaranteed reacted from 80 to 78½, but as in most other instances, the rather lower price was attributed to absence of demand, and very little selling was reported. L.M.S.R. 4 per cent. debentures were fractionally lower at 91½, but the 5 per cent. debentures remained at 106.

Great Western ordinary went back sharply at one time, but later showed a better tendency, and at 28 was virtually unchanged on balance. Moreover, the 5 per cent. preference was maintained at 78½, while the 4 per cent. debentures remained at 102. The guaranteed stock, however, reacted from 105½ to 104. Southern preferred went back two points to 45, but the deferred was unchanged at 10. On the other hand, a decline from

78 to 76½ was shown in the 5 per cent. preference, and the 4 per cent. debentures were quoted a point lower at 98½.

Rather more attention was given to L.N.E.R. second guaranteed in view of the large yield, and the price improved on the week from 53 to 54½, while the first guaranteed was little changed at 67. On the other hand, the first preference, reference to the yield on which was made last week, moved back from 32 to 30½. L.N.E.R. second preference was a point down, the current price being around 9. L.N.E.R. 3 per cent. and 4 per cent. debentures lost a point; current prices are 60½ and 80½ respectively. As regards London Transport "C" a decline from 30 to 27½ has been shown on the week.

Where changed, Argentine railway securities were again lower, but Central Argentine 5 per cent. debentures did not decline further, having kept at 31. B.A. Gt. Southern 4 per cent. debentures, however, were lower at 38½, as were Argentine Gt. Western 5 per cent. debentures at 19½. Elsewhere, Antofagasta preference stock reacted further to 20. There was considerable activity in Canadian Pacific preference stock, which following the announcement of the 2 per cent. interim dividend, touched 48½ at one time, but later reacted to 44½.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1939-40	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares Stock	Prices				
			Total this year	Inc. or Dec. compared with 1939		Totals		Increase or Decrease		Highest 1939	Lowest 1939	Aug. 13, 1940	Yield % (See Note)	
						This Year	Last Year							
South & Central America														
Antofagasta (Chili) & Bolivia	834	4.8.40	£ 17,070	£ 6,340	31	£ 560,340	£ 399,220	+ £ 161,210	Ord. Stk.	10½	4½	5	Nil	
Argentine North Eastern	753	3.8.40	ps. 182,100	ps. 10,300	5	ps. 871,600	ps. 942,600	ps. 71,000	6 p.c. Deb.	4½	2½	2	Nil	
Bolivar	174	July 1940	4,050	150	30	28,630	29,150	520	Bonds.	7½	5½	6½	Nil	
Brazil	2,801	3.8.40	ps. 1,145,000	ps. 93,000	5	ps. 5,561,000	ps. 6,370,000	ps. 809,000	Ord. Stk.	5½	4½	2	Nil	
Buenos Ayres & Pacific	190	22.6.40	\$94,900	\$45,200	52	\$4,912,430	\$5,293,600	\$381,200	Ord. Stk.	13½	4½	4	Nil	
Buenos Aires Central	5,082	3.8.40	ps. 2,109,000	ps. 204,000	5	ps. 9,763,000	ps. 9,833,000	ps. 70,000	Ord. Stk.	10½	4	3	Nil	
Buenos Ayres Gt. Southern	1,930	3.8.40	ps. 627,000	ps. 10,000	5	ps. 3,119,000	ps. 3,535,000	ps. 416,000	Ord. Stk.	11½	4	3	Nil	
Buenos Ayres Western	3,700	3.8.40	ps. 1,591,550	ps. 572,500	5	ps. 7,305,100	ps. 11,106,500	ps. 3,801,400	Ord. Stk.	4	1½	2	Nil	
Do.	—	—	—	—	—	—	—	—	Dfd.	—	—	—	—	
Cent. Uruguay of M. Video	972	3.8.40	18,395	138	5	83,556	89,786	6,230	Ord. Stk.	24½	18	17½	11½	
Costa Rica	188	May 1940	17,282	7,020	48	193,339	245,516	52,177	Ord. Stk.	104½	102	98	6½	
Dorada	70	June 1940	12,930	900	26	72,000	80,600	8,600	1 Mt. Db.	6	3	1½	Nil	
Entre Rios	810	3.8.40	ps. 274,900	ps. 27,500	5	ps. 1,257,700	ps. 1,481,100	ps. 223,400	Ord. Sh.	3/—	1/2½	1½	Nil	
Great Western of Brazil	1,016	3.8.40	6,700	1,700	31	316,000	255,200	60,800	Ord. Sh.	7½d.	7½d.	½	Nil	
International of Cl. Amer.	794	June 1940	\$464,143	\$31,059	26	\$3,305,093	\$3,234,012	+ \$71,081	1st Pref.	2½	½	1	Nil	
Interoceanic of Mexico	22½	July 1940	6,175	315	30	45,615	41,920	3,695	Ord. Stk.	2½	½	1	Nil	
La Guaira & Caracas	1,918	3.8.40	25,963	2,324	31	682,520	597,913	84,607	Ord. Stk.	1½	½	½	Nil	
Leopoldina	483	30.6.40	ps. 425,100	ps. 29,700	26	ps. 7,911,900	ps. 8,380,700	ps. 468,800	Ord. Stk.	2½	1½	1½	7½	
Mexican	319	June 1940	10,590	3,473	52	131,300	104,319	26,981	Pr. Li. Stk.	45½	36	38	15½	
Midland of Uruguay	386	31.7.40	5,483	729	30	103,419	70,318	33,101	Pref.	38	20	28	8½	
Nitrate	274	3.8.40	\$4,913,000	\$1,303,000	5	\$20,687,000	\$18,576,000	\$2,111,000	Ord. Sh.	2	½	½	Nil	
Paraguay Central	1,059	July 1940	65,421	1,015	4	65,421	64,406	1,015	Ord. Sh.	74½	60	72½	5½	
Peruvian Corporation	100	29.6.40	£11,123	£477	52	£981,987	£1,061,939	£80,032	4 p.c. Gar.	100½	76	102	3½	
Salvador	153½	28.7.40	37,500	361	30	1,129,027	989,569	139,458	Ord. Stk.	7½	3½	5½	Nil	
Taitai	160	June 1940	830	1,625	52	29,590	33,700	4,110	Ord. Sh.	—	—	—	—	
United of Havna	1,353	3.8.40	18,660	2,560	5	83,369	82,193	1,176	Ord. Stk.	—	—	—	—	
Uruguay Northern	73	June 1940	885	179	52	13,244	11,366	1,878	—	—	—	—	—	
Canada														
Canadian National	23,695	7.8.40	892,876	211,762	31	28,108,192	21,330,149	+ 6,778,043	Perp. Dbs.	74½	60	72½	5½	
Canadian Northern	—	—	—	—	—	—	—	—	4 p.c. Gar.	100½	76	102	3½	
Grand Trunk	—	—	—	—	—	—	—	—	Ord. Stk.	7½	3½	5½	Nil	
Canadian Pacific	17,153	7.8.40	635,800	162,800	31	18,823,400	15,216,000	+ 3,607,400	—	—	—	—	—	
India & Far East														
Assam Bengal	1,329	30.4.40	45,187	6,529	4	135,060	120,437	+ 14,623	Ord. Stk.	76½	60	71½	4½	
Barisi Light	202	10.6.40	2,760	52	10	27,367	22,357	+ 5,010	Ord. Stk.	277	229½	240	6½	
Bengal & North Western	2,091	June 1940	231,600	20,256	13	811,698	713,368	+ 98,330	Ord. Stk.	91	84½	215	3	
Bengal Doonars & Extension	161	31.5.40	4,567	1,449	9	23,228	15,781	+ 7,447	—	—	—	—	—	
Bengal-Nagpur	3,269	20.5.40	247,650	17,103	7	1,252,750	1,161,007	+ 91,043	—	—	—	—	—	
Bombay, Baroda & Cl. India	2,936	31.7.40	227,250	34,125	18	3,288,300	2,929,725	+ 358,575	—	—	—	—	—	
Madras & Southern Mahratta	2,967	31.5.40	192,300	10,980	9	1,152,000	1,087,659	+ 64,341	—	—	—	—	—	
Rohilkund & Kumaon	571	June 1940	58,050	9,246	13	192,915	151,792	+ 41,123	—	—	—	—	—	
South Indian	2,531½	22.5.40	121,425	7,685	7	598,652	589,624	+ 9,028	—	—	—	—	—	
Various														
Beira	204	May 1940	81,516	—	34	582,096	—	—	Prf. Sh.	½	½	½	Nil	
Egyptian Delta	623	10.5.40	4,591	602	6	19,436	20,384	948	B. Deb.	55	39	47½	7½	
Kenya & Uganda	1,625	—	—	—	—	—	—	—	Inc. Deb.	91½	87½	82½	4½	
Manila	—	—	—	—	—	—	—	—	—	—	—	—	—	
Midland of W. Australia	277	May 1940	13,908	192	48	145,304	165,763	20,459	—	—	—	—	—	
Nigerian	1,900	8.6.40	33,599	9,988	10	376,293	299,153	+ 77,140	—	—	—	—	—	
Rhodesia	2,442	May 1940	413,336	—	34	3,045,211	—	—	—	—	—	—	—	
South Africa	13,287	13.7.40	672,444	39,992	15	9,882,996	9,522,380	+ 360,616	—	—	—	—	—	
Victoria	4,774	Apr. 1940	815,965	19,214	43	8,399,795	7,865,959	+ 533,836	—	—	—	—	—	

Note. Yields are based on the approximate current prices and are within a fraction of ½. Argentine traffic is now given in pesos
 * Quotation is of June 17, 1940; dealings subsequently prohibited † Receipts are calculated @ 1s. 6d. to the rupee